

**INFLUENCE OF LOAN PORTFOLIO ON FINANCIAL
PERFORMANCE OF COMMERCIAL BANKS IN KENYA**

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DOCTOR OF PHILOSOPHY

(Business Administration)

**JOMO KENYATTA UNIVERSITY OF
AGRICULTURE AND TECHNOLOGY**

2019

**Influence of Loan Portfolio on Financial Performance of Commercial
Banks in Kenya**

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**A Thesis Submitted in Partial Fulfillment for the Degree of Doctor of
Philosophy in Business Administration (Finance) in the Jomo Kenyatta
University of Agriculture and Technology**

2019

DECLARATION

This thesis is my original work and has not been presented for a degree in any other University.

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This thesis has been submitted for examination with our approval as University Supervisors

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DEDICATION

I wish to dedicate this thesis to My Father the senior Onchomba who had the vision and my Mum Esther who stood by the family all the time. I also wish to dedicate this work to my wife Beatrice, our children Lenny and Dylan, all my siblings John, Job, Zac, Denis, Joash and Naftal.

ACKNOWLEDGEMENT

I would wish to thank the following for their enormous contribution towards my completion of PhD. My supervisors, Dr. Agnes Njeru and Dr. Florence Memba, who helped me to stay, focused. Much appreciation Dr. Tobias Olweny (JKUAT), Dr. Willy Muturi(JKUAT) and Dr. Tabitha Nasieku (JKUAT) who made positive contribution during my seminar proposal defense . The following able individuals also gave me valuable and useful suggestions and comments that helped to shape my document, Dr Kyongo (Daystar University), Dr. Omagwa (Kenyatta University), Dr. Abongo (Daystar university) Mrs Musau (Daystar university), Mrs. Mwamba (Daystar university),Mrs Njagi (Daystar University) and Mr Thomas Munene. My Uncle Chris Siambe who made me to pursue the finance field and encouragement me to aim higher a big thank you. My PhD colleagues- Daniel Motanya, Alfred Mwangi, Ruth Ondicho, Florence Kamau, Carol, Ramos ,Sharon and Antony for encouragement and moral support.

The following individuals were equally useful and deserve mention; Richard Maswili, John Maswili, Thomas Koyier, Dr Irungu, Dr Amata, Mrs. Ndugu, Mr .Dulo, Mr. Morris, Dr Karau, Dr Chesang, Dr Mureithi, Mr. Waweru, Mr Munyao, Mr . Okeyo, Mr Maranga and Mrs. Kasangi all of School of Business and Economics (Daystar University) for always being true friends in this journey. Special mention to Dr. David Wachira (DVC, Finance- St. Paul's University) and Prof. Mageto (DVC-Academics-KEMU) for emphasizing to me that progress in PhD was always a priority. They were always concerned about my progress and kept reminding me to „keep the spirit burning“ as this would be a great milestone in my academic achievement.

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ACRONYMNS AND ABBREVIATIONS

ACTS	Africa Centre for Technology studies
ADF	Augmented Dickey Fuller
ANOVA	Analysis of variance
AREUEA	American Real Estate and Urban Economics Associations
CA	Capital ampleness
CAMEL	Capital adequacy, Asset quality, Management efficiency, Earning ability and Liquidity
CAMPARI	Character, ability, margin, purpose, amount, repayment, insurance
CAR	Capital Adequacy ratio
CBK	Central Bank of Kenya
CBN	Central Bank of Nigeria,
CR	Current ratio
CRBs	Credit Reference Bureaus
EACB	East African Currency Board
FEM	Fixed effect Model
FP	Financial performance
FSA	Financial Services Agency

GLS	Generalized least squares
IL	Insider Loans
ILTL	Insider loans to Total loans
KCB	Kenya Commercial Bank
KRA	Kenya Revenue Authority
KS	Kolmogorov- Smirnov test
LA	Loan and advances
LP	Loan Portfolio
LPM	Loan portfolio management
MFBs	Micro finance banks
MFI s	Micro Finance institutions
NBFIs	National Board of Finance Institutions
NPLs	Non-Performing Loans
OLS	Ordinary least squares
PL	Personal loans
PLTI	Personal loans to Total Loans
REM	Random effect model
RL	Real estate loans

RLTL	Real estate loans to Total loans
ROA	Return on assets
ROE	Return on equity
SD	Standard deviation
SL	Small and Medium enterprise Loans
SLTL	Small and medium enterprises loan to Total assets
SMEs	Small and Micro-Enterprises
USA	United States of America
VIF	Variance inflation factor

DEFINITION OF TERMS

- Bank Size:** It is the market share of the bank as per the tier system (CBK, 2015).
- Credit Risk:** This risk arises from the failure to make payments from those who owe money to the bank. Coyle (2000) defined the term as a loss that stems from the refusal or the lack of ability to make timely and full payment of what borrowers owe the bank. It is a rapid disintermediation of finance because of the financial panic Aizenman and Lee (2007). Further, the term can be defined as the probable loss that may occur in case the bank will have to pay more interests to the deposits than it receives (Central Bank of Kenya [CBK], 2007).
- Current Ratio:** This liquidity measure defines the capacity of a business in terms of paying its current/short term obligations by using its short-term assets that can be liquidated within the business accounting period. It considers total current assets and the total current liabilities, (Khrawish, 2011).
- Financial Performance:** This is the capacity of a certain venture to make revenues from its use. It can also be the extent to which the financial objectives are attained. In addition, according to Kothari and Guay (2003), it is the system of determining the outcome of an institution's policies and undertakings in terms of the monetary values.

- Insider Loans:** They are credit availed to people within an organization. They may be associated in ways such as having shares in the company or the ability to control, on terms, scales and conditions that are more advantageous than would be justified economically (CBK, 2015).
- Liquidity Risk:** Refers to a situation where revenues of an entity and the outlays are not synchronized (Holmstrom & Tirole, 1998).
- Non-Performing Loans:** These are loans whose repayments are not in accordance with agreed terms and are in arrears, according to the prudential guidelines provided by the CBK. They can also be defined as the facilities where there is a reasonable doubt about the ultimate collectability of the principal amount and interest, within a period established by the financial institutions (CBK, 2015).
- Loan Portfolio:** A collection of investments or assets for a corporate, in this case it refers to the type of loans advanced by commercial banks (CBK, 2015).
- Real Estate Loans:** It is a provision of capital or finance for the purpose of purchasing housing or building in large scale. Real estate finance also signifies the capital needed for the building of housing or the resource required to access or acquire housing projects by household or the credit supplied by a financial institution against collateral (CBK, 2015).

- Return on Assets:** Refers to the financial ratio that is defined as the banks' performance on finances. It is a ratio of the honorarium to the total asset (Khrawish, 2011).
- Return on Equity:** It refers to the amount of profit gained by an organization contrasted to the total equity of the shareholder that was invested or that which is located in the balance sheet. The shareholders expect ROE as a return for their investment (Khrawish, 2011).
- Treasury bill Rate:** It is defined as the running average of interest rates in the prevailing current market conditions for period of 91 or 180 days (CBK, 2011).

ABSTRACT

Financial performance and its sustainability in commercial banks and its relationship with loan portfolio has remained a subject of interest to most scholars, Though non-performing loans in relation to financial performance of commercial banks has been evaluated by a number of scholars, a long lasting solution has not been identified yet. This study evaluates on how each loan component influences financial performance of commercial banks in Kenya. Commercial banks do lend to different sectors of the economy and are well known for spurring the economic growth, in the process the intention is to generate enough funds for their growth and for the benefit of the stakeholders. The bulk of lending is in the form of personal loans, for real estate development, to SMEs and insider lending, however the problem for most of these commercial banks is to determine of how much influence these loans have towards their financial performance, can a strong or weak financial performance be attributed to a loan portfolio?. For a strong and sustainable financial performance, banks depends so much on the quality of loan portfolio they hold at one particular time. The objectives of the study were to determine how the various types of loans contribute to financial performance ranging from personal loans, real estate loans, SME loans, and insider loans besides banks size as a moderating variable, a joint influence were established to determine whether the entire loan portfolio significantly influences the financial performance. Various theories were used to explain the independent and dependent variables used in the study that includes asymmetric information theory, lifecycle theory, multiple lending theory, modern portfolio theory and CAMEL model. The components that have been selected to represent the loan portfolio were measured in terms of loan deposit ratio, value of loans advanced, percentage of total loan portfolio, default rate, maturity period, and value of security and size of the loan. Financial performance was measured by the use of return on assets, return on equity and current ratio for liquidity purposes. Bank size as a moderating variable was measured by the use of market share and number of branches that is likely to conform to the tier classification system by Central Bank. A census of 42 commercial banks in Kenya was done for a period of ten years between 2006-2015. The study used an explanatory cross-sectional design and panel data design. Secondary data was collected from audited financial statements and other relevant financial sources using data analysis sheet. Inferential statistics that is correlation and regression were used with STATA version 14 used to analyze secondary data. Hypotheses H₁, H₂, H₃ and H₄ were examined using multiple regression analysis, which is a form of multivariate regression analysis. Hypothesis H₅ was tested using Baron and Kenny's steps for testing moderating effect. The results showed that personal loans, real estate loans, SME loans, and insider loans has an influence in the financial performance of commercial banks as evidenced by the P-values. When bank size as a moderating variable was introduced to the model, the predictability of the model improved signifying the moderating influence. Findings revealed that loan portfolio influenced the commercial banks' financial performance in Kenya. Overall, there exist a strong influence of loan portfolio on ROA, ROE and current ratio. These influences are important at 5% level of significance. The Recommendations therefore are two fold, at managerial and policy level, Potential contracts, relationship lending and restructuring of loans involved in this loan portfolio stands out as areas that deserves much attention and should be taken into account to improve financial performance and on theoretical application, information theory will require ascertainment of additional information on loan borrowers in order to minimize on defaults associated with issuance of loans.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Globally, commercial banks have continued to face big risks emanating from non-performing loans (NPLs). Therefore, it is recommended that commercial banks should devise methods of tracking and evaluating the conduct of different borrowers and thus be in position to come up with favourable loan portfolios to help commercial banks realize not only sound financial performance but deliver their mandate to all stakeholders. The bottom line is that the main source of revenues in commercial banks is derived from loans advanced out and just like any other enterprise profit maximization explains why lending influences how banks perform financially. In their study, Kaba, Kouser and Azeem (2012) noted that extra care and extreme vigilance needs to be excised while advancing loans as over time it has proved to be a very risky venture.

Being an influential sector, commercial banks are playing a fundamental part in the economy of the world. They are commercial intermediaries that help mobilize and direct resources from a surplus expenditure to areas that have a deficit in an economy (Johnson & Johnson, 2005). Therefore, there is need to have a banking sector that is efficient since it is a requirement for savings and making investment decisions that will make the economy vibrant. Further, a productive and well-functioning banking sector ensures a proper and systematic funding of the country's most profitable projects. Thus, the commercial banks are of a greater importance in the execution of monetary policies and providing means of payment facilitation for goods and services that exchange hands both in the domestic and international markets.

A study on the macroeconomic factors determining NPLs for 85 countries for over a decade noted that, credit quality of loan portfolios globally was stable until the financial meltdown of 2007-2009, where on average, bank asset quality worsened drastically because of economic recession (Drigă, 2012; Uwuigbe, 2013). The study however held that the deterioration of loan performance and hence commercial banks

performance was uneven in various countries which was explained by factors including the rise in the gross domestic product (GDP), the exchange rate, cost of shares, and the loan interest rate. It must be noted that lending by commercial banks is done as a complex process, which is based on the fundamental credit principles that hinge on objectivity and that the duty to repay the issued loan and paying the related interest by the borrower will be honored. Secondly, the application of such principles defines the quality of lending and payment of the loans. On the contrary, it is non-compliance to the principles that lead to nonperformance and hence poor financial performance in the commercial banks subsector. Commercial banks by being intermediaries who connect borrowers and lenders and hence ensuring that temporarily available resources from business and personal customers are put to use through the provision of loans to those that may require any form of financial support thus playing a key role of making it possible to finance other sectors like: agricultural, industry and other commercial activities in an economy.

Osayeme (2010) conducted a similar study and noted that commercial banks will lose relevance if they abolish credit functions. Credit components of commercial banks receive a great interest since they are part of an indication of the performance of a bank financially. Credit facilities have a potential risk of incurring bad debts, which will lead to a low financial performance by a bank. As implied by the name, lending is described as an obligation towards making or receiving payments when need arises or an agreed future date. It is based on the agreement to have an instant transfer of money or goods (Uwalomwa & Ben-Caleb, 2012). Further, lending depends on the trust and confidence that a creditor bestows on the capacity and ability of a debtor to willingly fulfil their payment promise.

Citing from the market intelligence survey (2014), Nine (9) financial institutions out of the forty two (42), commercial banks in Kenya, control around 74% of the banking sector assets. Ten banks have extended their operations into the mortgage sector of the industry. Of these banks, the latest to make an entry into this sector include Equity bank, Family bank, CFC Stannic bank, Kenya Rural Enterprise Programme (KREP) bank and the Co-operative Bank of Kenya. Earlier on, Standard Chartered Bank, Barclays Bank, Investment and Mortgage (I&M) Bank, and the

Kenya Commercial Bank (KCB) had ventured into the market. KCB's entrance was through its savings and loans facility.

The act of liberalizing the Kenyan banking industry in early 1990's paved the way for intense competition among financial institutions which saw many institutions extending large credit amounts with the main aim focusing on the increase of the financial performance. It has been confirmed that other loans were given with minimal or a total lack of credit assessment. Some were also accorded to insiders. A large number of loans issued in this period ended up not performing well. Further, owing to the low-quality nature of the loans, there were high levels of NPLs, which subsequently minimised the profits. Further, a study done by the CBK in the year 2014 found out that KES. 80.6 billion, worth of bank loans, had not been serviced for a period of up to three months by December 2013. This was an increase of KES. 19 billion from the year 2012. At this same pace, CBK has established new policies on how to handle NPLs that seem to have piled pressure on banks. The new policies require banks and other lenders to categorise the loan accounts that do not perform. These non-performing loan accounts are for borrowers that fail to make their payments on their loans for a period extending beyond three months. Debates put forth demonstrate that NPLs grew because of the change of rules that were focused on the recovery process and the prudential guidelines introduced by the CBK. This led to high rates on interests in the year 2012. This foregoing has tarnished the image of the banks and has spurred them to reserve extra cash as to help cover for defaults; a situation which has severely affected their financial performance by negating their financial performance. It is, therefore, necessary to venture into how loan portfolio influences financial performance, in this case, of commercial banks in Kenya.

1.1.1 Loan Portfolio

The loan portfolio is constitution of loans that have been issued or bought, which are held for repayment. The portfolios form the lending institutions and banks' major assets. The loan portfolio value is based on both the earned interest rates and the possibility of having the repayment of the principle and interest amounts (Jasson, 2002). Most banks engage in lending services as their principle business. Therefore,

this makes the loan portfolio one of the largest assets of the banks and a major revenue source. Further, the dependency of loan portfolio as major business by banks makes it one of the high-risk sources to financial institutions' soundness and safety. Historically, loan portfolios have been proved as the leading reason for losses and failure because of either poor management of risks, weak credit standards, or a weak economy. Essential to the soundness and safety of a bank, proper care of loan portfolios and a well-designed credit function is needed.

Banks are exposed to many risks, among them financial risk, due to the unique nature of their operations and their customers (Ugoani, 2016). Financial risk is fundamental in each commercial bank (Muteti, 2014). Credit risk, liquidity risk as well as market risk comprises financial risk; many approaches by commercial banks to counterbalance these risk exposures generally involve well laid out credit policies and procedures (Ugoani, 2016).

The inherent risks in the credit process are mitigated and controlled through the Loan Portfolio Management (LPM). Owing to the importance of the LPM review process, it should be made major supervisory activity (Koch & MacDonald, 2002). The assessment of LPM involves the evaluation of measures taken by management in identifying and controlling risk in the credit process. This assessment should be focused on the activities of the management in a bid to unearth issues before they escalate to full-blown problems. Thus, the process of identifying and managing risk within groups of loans is as important as the risk contained in personal loans. For many years, good managers of loan portfolios have paid more attention to the prudent approval of credit and a careful monitoring of loan performance. Despite the continuance of these activities as the main focus of LPM, there is more evidence from the analysis of credit problems in the past for example in the oil and gas industry which require the portfolio managers to put more effort.

Traditionally indicators that trail the credit quality such as delinquency, risk rating trends and nonaccrual have been employed (Acharya, Engle, & Richardson, 2012). It is important to note that an effective loan portfolio management should begin with a supervision of the personal loans risks. Therefore, to maintain a favorable loan

quality, it is critical to have a wise risk identification process. Thus, the need to control quality loan approvals and the oversight of loan performance remains to be a vital call a better information systems technology to manage loans. Managers can identify risky loans by making a comprehensive look at the loan portfolio (Koch & MacDonald 2002). Further, in managing portfolios, bankers need to understand beyond the personal risks into the interrelations between the personal loans risks and portfolios. This kind of relationship can multiply the risk levels beyond a situation that ought to be when there is no interrelation. A few banks used modern portfolio management ideas to control credit risks in the past. At the time of the study, many banks have integrated the concept and they are viewing loan portfolios both as segments and in their totality by establishing the relationships that may be existing among the portfolio segments and among the loans. This activity gives a complete picture of the risks of banks' credit profiles to the management and further, it offers more analysis tools that enable the analyzing and controlling of risks (Sinkey, 2012).

1.1.2 Financial Performance of Commercial Banks

With the introduction of Structural Adjustment Program (SAP) in the 1980s, key changes have taken place particularly among banks worldwide. There has been a reduction in interest rates control and government involvement in banking business and the acceptance of international banks (Ismi, 2004). These changes have led to the visibility of firms from developed nations and are evident in the global South where additional branches and subsidiaries have been acquired over time. A tremendous increase has been witnessed among banks in other countries too. From the introduction of SAPs in the 1980s, foreign bank branches and subsidiaries have sprung up in different regions in the world.

For the last two decades, foreign banks have significantly increased their numbers in Africa. Particularly, the Sub-Saharan African has experienced a more remarkable growth in the number of these foreign banks. Contrary to this trend, domestic banks experienced a decline (Claessens & Hore, 2012). This phenomenon has attracted researchers to study about bank performance concerning these reforms brought by the introduction of SAPs. A significant change in the configuration of finance has

been noticed in various countries with a particular impact felt by the banks on their financial performance. A profitable and sound banking sector ought to withstand the negative economy shocks and be able to contribute towards the financial systems' stability (Athanasoglou, Sophocles, & Matthaïos, 2005). Further, it is crucial to observe that commercial banks play a part in the performance of a country's economy. Banks act as intermediaries, which is a vital role in the resource collection of a country. Nations achieve this function through the mobilization of resources to be used on/for productive activities. Thus, a bank's good performance is vital. The failure by the banks to meet their expectations in performance undercuts the growth and development of an economy. When commercial banks perform poorly in matters relating to finance, they bring about financial failures. Such failures lead to a crisis in an economy, which will further accelerate an economic degeneration as evidenced by the great recession in US in 2007 (Marshall, 2009). Therefore, regimes use this phenomenon in justifying the need to regulate banks through the help of central banks. The regulation creates a healthy and sound system of banking in a country.

A study by Olweny and Shiphó (2011) highlighted that in avoiding a financial crisis, due attention must be given to the banks financial performance. Further, it showed that the performance of banks began with the use of Efficiency Structure (ES) and Market Power (MP) theories towards the end of 1980s. Moreover, a study by Athanasoglou et al. (2006) showed that banks serving a large market share and having a well-differentiated portfolio have the ability of winning over their competitors and getting a monopolistic profit. Financial ratios like the Return on Equity (ROE) can be best utilized in tracking the performance of commercial banks in the finance sector as opposed to the aggregate of shareholder equity found in the balance sheet. Another ratio indicator is Return on Asset (ROA), which shows the bank's financial performance through the measuring of the ability of a bank management in generating income with the use of company assets. Additionally, Net Interest Margin (NIM), which is used to determine the gap between the interests' created revenue by banks and the amount compensated to lenders (for example, depositors), can be used in relation to the amount of interest earning assets. Liquidity

ratios like current ratio and acid test ratio indicates how the business is prepared to discharge its current obligations by utilizing its current assets.

Other indicators of banks' performance on finances include the bank related factors like the internal factors, which affect financial performance, and the capital adequacy, which is the amount owned by the bank, can be used to bolster the business of a bank in case there is an adverse situation experienced.

1.1.3 Loan Portfolio and Financial Performance of Commercial Banks

Businesses, financial institutions and the governments are said to obtain much of their profits from loans (Felix, 2008). Therefore, finding good borrowers and using a proper loan portfolio strategy that ensure an accurate credit worth of a borrower is significant to the long-term financial performance of a company in this case banks. In addition, because giving of loans is a crucial activity to the banking institutions, it shows the use of depository funds in the financial institutions. Further, it generates high revenues from the loan assets. Thus, an effective portfolio ought to be used to create a positive aftereffect on the banks performance. A poor loan portfolio has been identified as the main cause of bank failures. Achou and Tenguh (2008) stated in their study the existence of a very significant relationship between the bank performance concerning Return on Assets and the risk management of credit concerning the loan performance. Further, they argue that a proper management of a credit risk concerning the loan portfolio will often yield a better financial performance in banks. Thus, there is need for the banks to use better loan portfolio frameworks to safeguard the interests of the investors and secure their assets (Grace, 2010).

Bank policies on the loan portfolios help to determine the loan portfolios held by commercial banks (Grace, 2010). Further, this influences on the debt levels and in the measurement of the managerial position in investing and making profits out of the venture. The policies on loan portfolio define the performance of the banks in manner that when a bank has taken up a policy of loan portfolio it stands a chance of maximizing its investment revenues in the debtors, in turn promoting its financial performance. Therefore, a good policy concerning loan portfolios has a positive

effect on the bank's high financial performance (Grace, 2010). Additionally, banks can use management of risks on credits like the use credit committees and the credit bureaus in the approval of loans. These bodies have the powers to control and reduce the credit risks, boost the loan recovery means since they do carry out analyses of the decisions a bank considers before issuing a loan. This move reduces the possibility of bad loans recovery, which results in lowering banks' performance on finances.

Various researchers have determined an existence of a link between the management of loan portfolio and the banks' performance on finances. Cooper, Jackson, and Patterson. (2003) found out from their study that an alteration in the risk associated with credit advanced with results showing a balanced loan portfolio. This factor affects the performance of banks. Variation in the banks' financial performance is mainly caused by the variations of the credit risks, which increase the exposure to risks. Therefore, there is thus correlation between the risk of loans given and a decline in the financial performance of an institution. Another study by Grace (2010) revealed credit risk and the performance of banks on finances relate negatively. This link implies that a number of banks are exposed to risky loans. Thus, the more the non-performing loans, the lower the financial performance. There is therefore a need to have a well-managed loan portfolio strategy and a better management strategy on credit risk. This will cause a positive impact on the banks' performance on finances.

1.1.4 Commercial Banking in Kenya

In Kenya, there exists 42 operational commercial banks all regulated and monitored by the CBK as per the provisions of the laws of Kenya and the Banking Act cap 488 and Prudential Guidelines thereon issued. The commercial banks have to maintain certain minimum capital levels as well as capital ratios and other ratios as a way to mitigate banking risk exposures: minimum statutory liquidity ratio is 20% and total capital to risk weighted assets minimum statutory ratio is 12% (CBK, 2014). Kenyan commercial banks' risk weighted assets has increased over the years (Waithaka & Nzeveka, 2015). Several financial institutions including commercial banks have also collapsed in Kenya in the past as a result of non-performing loans (Waweru & Kalani, 2009). Three banks have also faced financial difficulty over the recent past;

Imperial Bank experienced difficulty due to weak corporate governance mechanisms as well as insider lending, Chase Bank was put under receivership due to related party lending and accounting treatment of the same, Dubai Bank also faced difficulty due to liquidity problems (CBK, 2016). This is an indication of systemic failures that can result from loan portfolio held at one particular time.

By 31st December 2015, the CBK was the banking regulatory authority in Kenya, with its mandate acting over 42 commercial banks, one mortgage finance company, 14 money remittance providers, 12 deposit taking microfinance institutions, 30 non-regulated credit only microfinance institutions, three credit reference bureaus and 86 forex bureaus. The Kenyan banking sector had an asset base of KES 3.6 trillion as at June 2015. This asset base grew by 1.4% to a new base of KES 3.7 trillion in September 2015, which is a 6.9% growth (Cytonn Investments, 2015). Deposits were at a base of KES 1.6 trillion, which attracted a gross profit of KES 24.7 billion as at 31 March 2014. Deposits from customer accounts were at 14.36 million and the loan accounts were at 2.032 million by the end of March 2014 (CBK, 2014).

Commercial bank assets are dominated by loans since they get a larger share of operation incomes from them. However, loans pose great risks to commercial banks like those of non-performing loans that result from borrowers who default in their payments. Further, loan defaulters affect the financial performance of a bank. Through the provisions made by commercial banks towards non-performing loans, bad debts are written off. This act reduces the bank's profit reserves. Commercial banks attach opportunity costs to the non-performing loans in that, the money given out as a loan could have been utilized in a different investment that could have been more viable. Further, there are other costs incurred in the recovery of the non-performing loans. These costs also affect the commercial banks' financial performance.

The growth momentum in the banking sector of Kenya is largely spurred by the adoption of cost effective channels on the delivery of services and the continued increase of the Kenyan banks in the East African region and in Southern Sudan. Therefore, the CBK expects the sector to be able to sustain this growth experienced

by the banks. However, inflation risks and high rates of interest are anticipated to drop (CBK, 2015).

In the past 10 years, Themba and Tobias (2011) noted that the banking sector recorded an increase in the financial and overall performance. However, a thorough examination of the sector revealed that not all banks are making the said profits. The enjoyment of a huge financial performance by big firms in the banking sector (Tier 1) as opposed to medium (Tier 2) and small banks (Tier 3) is a possible indicator of remarkable factors that affect commercial banks' performance on their finances.

1.1.5 Bank Size

Customer profile can be affected by both the bank ownership and the bank size. The reasoning applied is similar to that of ownership arguments. Generally, large banking firms enjoy a competitive advantage over small banking firms as larger firm can lend to large customers. This advantage stems from the ability of large banks to exploit the economies of scale in making evaluations on hard information available on this kind of customers. Small banks lack the capacity to lend to large customers. These small banks have a challenge as they are constrained in terms of lending limits as guided by the regulator. Smaller banks however, enjoy a relative advantage over SMEs in the processing of soft information. Therefore, the consolidation process in the banking sector in the transition countries might have caused a drop in the focus directed to large banks in the financing of SMEs. The large firms in the banking sector can use their technological abilities like the approach of asset lending and credit score to circumnavigate the soft information challenge. Further, these banks are best suited in the lending of SMEs. Therefore, because such technology is beneficial in the economies of scale, large international firms have the potential of developing a relative advantage in the lending of SMEs (De la Torre, Soledad Martinez Peria, & Schmukler, 2008).

The most commonly used measures of the size of a bank is total assets, market share and the number of branches (Marinković & Radović, 2014). This is evident as it is used by the CBK to distinguish banks into Tiers. The CBK has divided banks in

Kenya into three tiers in order to be able to differentiate them in terms of market share, asset base and the number of customer deposits.

The first tier is the banks that boast of hundreds of billions in cumulative assets and has millions of customer deposits. If they were to suffer failure, they would have a catastrophic on our country's economy. In such a scenario, the government would have to intervene to avert a financial crisis. There are six banks in this tier and they control 49.9% of the market.

Tier 2 banks are medium-sized lenders who control 41.7% of the market share. The final level is Tier 3. They control 8.4% of the market. This study will use the bank size as a moderating variable between the loan portfolio and the performance of commercial banks financially. The question of whether bank size matters in this case will come into focus.

1.2 Statement of the Problem

In the wake of unpredictable economic performance in Kenya, financial performance and how to sustain it within the banking sector has become a challenge due to existing and new loans from commercial banks becoming costly with some banks varying interest upwards even for those with previously agreed schemes. The stability of the banking sector in every country is paramount towards establishing a sustainable economic growth. This is because the growth enhances the customer confidence in the banking system. However, the global banking industry has experienced weakened financial performance because of an increased rate of bad debts since the economic crisis of 2007. Many Studies that have been done have often associated the large number of non-performing loans from the financial institutions and the insolvent firms to the occurrence of the banking crises (Fofack, 2013). As an example, 60 banks collapsed in Indonesia during the East Asian Financial and Banking crisis in the year 1997 because of non-performing loans, which represented around 75% of the portfolios of bank loans (Capozza, Kazarian, & Thomson, 1998). This is one of the indicators that financial performance of banks can be suppressed at one particular period by the kind of loan portfolios held.

A study commissioned by CBK (2013) to find out the contribution of loans on commercial banks development, appreciated that the banking sector lending is possibly the most critical of all banking activities, as the interest levied on loans is the main source of any commercial banks earnings and cash flows hence stability in terms of its financial performance. Kirui (2013) examined the effect of non-performing loans on the performance of commercial banks financially, and reported that NPL influence the performance of commercial banks. This study recommended the licensing of credit reference bureaus that can be able to provide sufficient information on loan borrowers to commercial banks and stem or minimize serial loan defaulters' effect. However, the study was not able to factor in the default rate in each component of the loan portfolio and how each component in the loan portfolio influences the performance of the financial aspect of these banks.

A study done on factors determining the performance of commercial banks in terms of finances in Kenya by Ongore and Kusa (2013) found out numerous factors that affect financial performance. Among these many factors is the capital adequacy, quality of assets, efficiency of management, liquidity management and other macroeconomic factors. CAMEL's model was used extensively to discuss the quality of the loan that financial institutions offer. However, this study did not indicate the crucial influence of the loan portfolios on banks' finances hence the importance of this study to address the need for banks to build a sustainable financial performance by using an effective loan portfolio.

Many of the highlighted studies have linked non-performing loans to financial performance of commercial banks but have not adequately demonstrated how the performance of commercial bank's finances is influenced by each component of a loan in a portfolio and by factoring in the degree of the default rate in the same portfolio. It is against this information that this study set to find out whether the financial performance of a commercial bank can be attributed to the kind of loan portfolio it holds at one particular period in Kenya. The situation above calls for an effective strategy to remedy the unsustainable banks financial performance over the years, which to some extent depends on a loan portfolio held. Among other

objectives, this study sought to give recommendations that would help commercial banks come up with an effective loan portfolio policy.

1.3 Study Objectives

1.3.1 General Objective

To find out what influence loan portfolio has on the financial performance of commercial banks in Kenya.

1.3.2 Specific Objectives

- i. To determine the influence of personal loans on the commercial banks' financial performance in Kenya.
- ii. To determine the influence of real estate loans on commercial banks' financial performance in Kenya.
- iii. To find out the influence of loans advanced to small and micro enterprises (SMEs) on commercial banks' financial performance in Kenya.
- iv. To establish the influence of insider loans on commercial banks' financial performance in Kenya.
- v. To determine the moderating influence of bank size between the loan portfolio and commercial banks' financial performance in Kenya.

1.4 Research Hypotheses

In line with the specific objectives, this study tested the following null hypotheses:

H₀₁: Personal loans have no significant influence on the commercial banks' financial performance in Kenya.

H₀₂: Real estate loans have no significant influence on the commercial banks' financial performance in Kenya.

H₀₃: Loans advanced to small and micro enterprises have no significant influence on commercial banks' financial performance in Kenya.

H₀₄: Insider loans have no significant influence on the commercial banks' financial performance in Kenya.

H₀₅: Bank size does not have a significant moderating influence between loan portfolio and the commercial banks' financial performance in Kenya.

1.5 Significance of the Study

Loan Portfolio can determine the number of non-performing loans that a commercial bank has at any given time that in return affects operational efficiency, which affects the financial performance, liquidity and solvency position of financial institutions. This affects the banks' performance on its finances hence the study would help inform policy makers on measures to use in mitigating the prevalence of non-performing loans and hold a performing loan portfolio. The study being conducted would also create awareness among banks on the quality of assets they hold at any given time since loans are the greatest assets of commercial banks.

This study would help the government through its regulatory authority that is central bank to determine whether commercial banks are lending in line with their capital base and policies put in place. It is also possible to determine which loan portfolio across the commercial banks that contributes more to the nonperforming loans and how this eventually affect the commercial banks' financial performance in Kenya.

The commercial banking subsector is capable of creating employment besides promoting poverty reduction through financial inclusion efforts. Besides, it would help the employees of the commercial sector in bettering their capacity to adhere to the management policies of the loan portfolio and procedures and hence, minimize defaulters, fraud and professional negligence that may be responsible for bank losses. This measure would improve performance.

The findings would also help commercial banks clients to be more responsible and hence compliant with the borrowing agreements through provision of authentic documentation besides making payments as per agreed terms to reduce bank loan defaulters.

The study findings would go a long way in providing a practical advantage to the general practitioners and the academicians. Further, the study would provide an insight on the need to understand the importance of credit management in reducing risks associated with it. Thus, there would be a reduction of losses in commercial banks. The study findings would also increase the existing knowledge pool in the university libraries, and provide a base for further studies in this same field.

The study findings would assist in practical ways the treasury and tax authorities by providing a better insight into the understanding of the importance of credit management and loan portfolio influence on profitability and financial performance of commercial banks. This would help when advising such monetary institutions on better methods of mitigating loan portfolio risks and thus minimizing losses in commercial banks. The findings would add to the pool of existing knowledge on the treasury libraries and act as a ground on which further study could be done on the same areas.

1.6 Scope of the Study

This study considered the loan portfolio of all 42 commercial banks that were in operation for a period of 10 years between 2006 - 2015. This study focused on the head office of these banks. This is the period banks reported varied results on the financial performance and non- performing loans and huge upward trend in their financial results particularly tie two commercial banks. The components that were chosen represented loan portfolio across all the commercial banks, which forms higher portfolio percentages on commercial lending than other forms of loans advanced.

1.7 Limitations and Delimitations

The researcher was faced with some limitations, but possible delimitation approaches were considered. Limitations are defined as those characteristics of design or methodology that are likely to impact on findings and interpretation of the research (Price & Murnan, 2004). For this study, the researcher encountered a limitation in gaining access to detailed data from the target organizations since financial

performance is regarded by most banks as a secret weapon and a reputational or confidential aspect. This mostly applied to banks not listed in the stock market. To delimit this, the researcher used reconnaissance method to introduce and create rapport with the target-sampled organizations.

The researcher also wanted some clarification on some financial information documented so that it will be clearer during analysis, accessibility to the custodian of this information was challenging. In this case, the researcher involved the organization's leadership that appealed to staff urging them to respond to the queries by stating to them the benefits of the findings to the entire banking sector hence, Another challenge was the limitation brought about by self-reported data since the data to be gathered from the studied organizations was to be self-reported. According to Brutus, Aguinis, and Wassmer (2013), it is not easy to control bias of self-reported data. This is because bias may arise from aspects of selective memory, telescoping which means recalling events that occurred at one time as if they occurred at another time, attribution – attributing positive events and outcomes to one's own agency but attributing negative events and outcomes to external forces; and exaggeration.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviewed general and empirical literature on loan portfolio, financial performance and bank size. In addition, a review of theoretical underpinning of the study was captured to expound on relevant theories that place the research into context. The chapter also reviewed CAMEL model, which was used to assess the banks financial performance. A conceptual framework was captured with the conceptual model clearly showing the relationships among research variables.

2.2 Theoretical Framework and Model

This part sought to discuss general theories that guided the topic of study. The theories reviewed here have been tested over time by various researchers in the financial fields, to demonstrate that loan portfolio can actually influence financial performance of organizations particularly in case of commercial banks.

2.2.1 Asymmetric Information Theory

In 1970, George Akerlof developed and proposed a theory in his paper known as the market for Lemons that had a description of quality issues and uncertainty within its mechanisms which was successfully be used to explain how information imbalance between the lenders and borrowers can affect the loan portfolio and financial performance in the banking sector. This theory explains a scenario when the business managers or the owners are more aware of the future expectations, and the risk that the business is facing than the lenders do (PWHC as cited in Eppy, 2005). The theory presents a situation in which all the parties that are involved in any kind of undertaking lacked full information. Information asymmetry in the debt market arises when the borrower is having more information, than the lender, on the possible risks and the returns involved in the investment to be undertaken by the loaned money. Conversely, when it comes to the borrower, the lender lacks adequate information (Edwards & Turnbull, 1994).

There are two challenges posed by the perceived information asymmetry to the banks. The two problems are the moral hazard, which involves the monitoring of the entrepreneurial character and the adverse selection, which arises from the making of wrong lending decisions (Binks, Ennew, & Mowlah, 2006). Banks are faced with difficulties in overcoming this problem since it is costly for them to commit more resources towards the monitoring and appraisal of borrowers especially those that borrow small amount of money. The process of monitoring borrowers is costly because the required data is unavailable freely. Further, bankers face an information asymmetry situation particularly on application of loan (Binks & Ennew, 1996). The needed information to aid the assessment of the entrepreneurs' competency, commitment and their projects is not available, expensive in its acquisition or hard to deduce its meaning. This phenomenon causes two types of risks to banks. One is the risk of adverse selection where the banks chose to lend to businesses that end in failing (type II error) or when the banks choose not to lend to a business, which has the potential of or one that actually succeeds later on (type I error) (Deakins, 1999). Therefore, this theory was helpful to the study by determining the way the banks make their decisions on the customers they choose to advance loans, and the amount of information they do have concerning a customer that can minimize the loan defaults.

2.2.2 Lifecycle Theory

The lifecycle theory is also referred to as the lifecycle hypothesis (LCH). It was spear-headed by Modigliani and Brumberg (1954, 1979). Economist use LCH as the mainstream theoretical framework to understand behaviour of consumers and firms. Firms experience gradual growth through different stages of a corporate lifecycle and eventually become mature (Miller & Friesen, 1984). These corporate lifecycle stages differ from each other in terms of firm structure and characteristics. The lifecycle theory proposes a lifecycle for firms that have unique characteristics at the stages of birth, growth, maturity and the decline stage. Further, the theory proposes how these unique characteristics affect the firm's decisions more especially, when it comes to a situation of financial distress and a risk of bankruptcy (Koh, Dai, & Chang, 2012).

At birth phase, a firm is in its early stages of setting up its business operations. The firm is therefore more geared towards expansion and is mostly action oriented. As it progresses into growth stage, the firm is more or less successful and experiencing growth in terms of strong business and cash flows. The firm then enters maturity. Here, the firm is cash rich, financially oriented, and focuses more on low risk projects. Eventually, at decline stage a firm has limited opportunities in making new investment and generally, it has lost the capacity of generating more resources. Given that at different lifecycle stage a firm is faced with different challenges, management must have adjusted decisions that account for these differences.

According to Koh et al. (2012), lifecycle characteristics present limited options for restructuring to managers, especially when firms are faced with distress. The restructuring strategies of a firm used in a time of financial distress are affected by the unique life cycle characteristics. These strategies include the operational, asset, financial and managerial. For instance, firms at a mature stage replace their top management while those at stages of growth, mature and decline limit their issued out dividends and increase their external funding sources.

Conversely, the corporate finance theory presents an argument that the situations of financial distress, default and bankruptcy in a firm's lifecycle presents a fundamental stage (Wruck, 1990). Therefore, a firm's survival is dependent on both the ability to maintain its profits, maximize its shareholder wealth and avoiding financial distress. Further, the firm survives also in its ability in making decisions that account for the lifecycle stage of a firm (Koh et al., 2012). Therefore, there is a need to effectively deal with financial distress and immediately so, especially given that it precedes bankruptcy. How effectively a firm responds to a situation of financial distress is important when it comes to recovery.

The restructuring of available strategies to a firm that is in distress is limited the stage a firm is in, in the lifecycle. For instance, mature firms that are experiencing distress can choose to replace the managers if they seem to be incompetent. Firms at the birth stage may not change their management. The declining firm possibly employs an asset and operational strategy restructuring as compared to the firms at birth stage. Further, the firms at the growth mature and decline stages can lower their payments on dividends to preserve and maintain their resources that are under pressure from the increased creditors. Similar to the pecking order hypothesis, firms experiencing distress are likely to raise their external sources of funding through issuing common shares. This theory was used to determine how banks increase their loan portfolio to different businesses (SME) in the due course of their financial needs.

2.2.3 Modern Portfolio Theory

Firms have had a successful application of the theory of modern portfolio introduced by Harry Markowitz in 1952 in market risk diversification since the 1980s. Currently, many firms have employed the use of value at risk models in managing their interest rates and the exposure to market risk. Unfortunately, there is a lag in the application of the modern portfolio theory in managing credit risk, and the credit risk has therefore, remained to be the largest challenge facing most companies (Margrabe, 2007). Companies understand the adverse effects of credit concentrations on the financial performance. Therefore, there are many institutions pursuing quantitative means to manage the credit risks.

The banking industry is also making significant advances towards the development of the tools that can be used in the measuring of credit risks in the context of a portfolio. Further, there is a use of derivatives from credits in the efficient transfer of risks and maintaining the customer relationship. There is an adoption of the quality ratios on portfolios and the indicators of productivity (Kairu, 2009). This combination of developments accelerates a vast progress in the management of the credit risk in the portfolio context. Initially, organizations were used to the asset-by-asset method of risk management. Nevertheless, as the methods used in different

firms differ widely, this approach involves the periodical evaluation of quality of credit and the exposure of credits. Further, the application of rating on credit risk and a consequent summation of the findings of the analysis done help to identify the expected portfolio losses. The basis for the approach of asset-by-asset shows a solid credit review and an internal system of credit risk rating. The system aids the timely management of the process of identification of the personal credit changes, or the portfolio trends. Modifications are made to the portfolio strategies based on the identified changes on credit identification, credit review and the system of rating credit risk or an increase on the credits supervision is made at the right time.

Given that the application of asset approach is a crucial element in the management of credit risk, it lacks a complete picture of a credit risk portfolio. The term risk also means the possibility and likelihood of the actual losses surpassing the expected losses. Thus, companies compliment the asset-by-asset approach with credit models that incorporate quantitative portfolio review to increase their insight on credit risk (Mason & Roger, 1998). There is an increase in the pursuing of portfolio approach by companies with an aim of addressing the inability of the asset-by-asset approach to predict losses that are unexpected. A disadvantage of the asset-by-asset approach is the difficulty it presents in the measuring of the concentration. Concentration risks are the additional risks in a portfolio that are caused by the increase of expose on credit extension, or to a group composed of creditors that are correlated (Richardson, 2002). The theory is therefore, essential in the assessment of every bank's diversification of risks on lending. Further, it was also helpful in the determination of whether the risk is a factor in the determination of loan portfolio.

2.2.4 Theory of Multiple-Lending

Since its inception in 1984 by Diamond, the theory has found multiple uses in the banking sector. It can be used to explain the multiple lending services that financial institutions perform to their borrowers to the concept of loan syndication. Petersen and Rajan (1994) in their document further used the same theory to argue that loans got from multiple sources have a tendency to increase price besides reduction in credit availability. The existing literature indicates that banks ought to have a less

inclination towards share lending (loan syndication) when they operate in a well-established equity market. Mergers, acquisitions and outside equity raise the capacity of bank in lending. Thus, this reduces the need of banks to further diversify and monitor lending (Carletti, Cerasi, & Daltung, 2006; Degryse, Masschelein, & Mitchell, 2004; Karceski, Ongena, & Smith, 2004; Ongena & Smith, 2000).

A bank is likely to exploit its monopoly power when in a dynamic setting. This can be done through charging higher interest rates or even through limiting the firms that advance credit facilities. Through an establishment of a relationship with another bank, a firm can reduce or even avoid the costs on hold-up (Rajan, 1992; Sharpe, 1990; Von Thadden, 1992). Therefore, when a lending relationship is established between two firms, there competition is revived among the banking sector with a limitation to the extraction of the ex post rent. However, free rider challenges or a duplication of the costs incurred in monitoring can lead to a reduced effectiveness in multiple banking relationship if the monitoring is costly and discretionally. Further, in the conceptual structure of a costly financial screening and an adverse selection, the ex post probability of the rationing of credit can be raised with an increment in the volume of banks (Thakor, 1996). The rationing of credit rises by default from the costs incurred by banks in screening.

Thus, at the point of equilibrium, every single borrower goes to a number of banks, but still faces probability of positive rationing by each bank. In addition, borrowing firms are affected by the cost of multiple banking because it has to incur significant costs when making transactions. This will further affect the financial assets and the investment project quality in many ways. Lenders prefer spending fewer resources to monitor the borrowers than they would do for exclusive cases that include a long-term relationship. There can be a duplication of the monitoring and screening process if a bank chooses to use other lenders' records. In this case, there is very little monitoring and screening. In such situations, there are possibilities of rejecting valuable projects of investment. Further, firms may engage in risky undertakings because of the lack of proper monitoring by the credit system.

According to Von Thadden (1995; 2004), no bank can be willing to give support to a firm that is experiencing a financial distress with a lack of long-term commitment because of the probable rise of a winner's curse problem. Further, there are more problems bound to occur in the process of debt renegotiation in a case where there are many involved creditors. There is a lack of clear motivation to both the borrower and the lender due to the high cost of multiple banking. Ongena and Smith (2000) say that the information-based that exist lack a complete explanation of the observed relationships that are maintained by both the small and medium firms mostly in the European countries. The unrelated hold-up arguments can be helpful in the justification of the multiple lending relationships.

Detragiache, Paolo, and Guiso (2000) presented a situation where firms are portrayed as seeking the possibility of multiple lenders in consideration of the likely costs that can be incurred in case it is denied a credit because of a bank's fragility. These authors give a varied argument that firms may be inclined towards diversifying their relationship with many banks or many other financing sources when they see a high risk of losing one relationship. In addition, firms that aim at reducing the risk where a profitable investment may be prematurely liquidated use multiple banking. Park (2000) says that an optimized debt structure and an optimized number of lenders can explain the problem of moral risk of a borrower.

In case of a severe problem in the moral risk, bank should take an initiative to monitor and oversee the firm's different activities and operations in respective projects as the official lender. Thus, the loan portfolio and structure adopted at times may contract with the preferable numbers in terms of different creditors and maturities that explain how it can maximize the incentive of senior lenders in controlling the problem of moral hazard risk of a borrower. However, for less severe problems, the hold-up costs can easily overcome the optimal monitoring benefits. Therefore, when the borrower has fewer chances to act opportunistically, there is no barrier to lending in multiple bank relationship, which may cause a reduction in the informal rents.

Lastly, different from the hold-up literature and the constraints of budgetary arguments, Carletti (2004) has come up with alternative model to apply in predicting the decision of a firm in the selection of a single or two-bank lending. A balance is gained from an optimal choice with regard to the higher probability of the projected performance in terms of investment projects, lower expectations of private return and a high cost of monitoring. This theory assisted in establishing how banks take the risk of lending large sums of money to one client and how secured the loan is. Thus, this study is anchored in this theory as it adduces aspects of multiple lending.

2.2.5 CAMELS Model

The tool of “CAMELS” model is an effective one; it has accuracy and efficiency in carrying out performance evaluation in the banking industry and in the prediction of the future relative risk. The model is an acronym that stands for capital adequacy, asset quality, management efficiency, income-generating abilities besides liquidity and sensitivity involved. An analysis of financial ratios is used to measure the banks’ performance on finances and other institutions of finance. To banks, performance refers to the capacity in generation of a sustainable financial performance (Rozzani & Rahman, 2013).

Practitioners who apply financial ratios to measure the bank’s performance state have used CAMELS’ rating traditionally. Further, the management of banks to evaluate the financial wellness and performance (Rozzani & Rahman, 2013) uses the model. Malihe Rostami used this model successfully to analyze the performance of banking industry in Iran in 2015.

Capital adequacy

Karlyn (1984) as a ratio in terms of working capital ratio has defined capital adequacy model as the primary risk involved is composed of the depositing risks, which are because of the sudden and significant withdrawal of deposits in large scale. The capital adequacy model is expected to check a balance with the exposure risks to the institutions of finance. Such include the risk of loan nonpayment, risk related to operations besides, and market risk. The balance strike aims at the

absorbing of possible losses, and at the protection of the debt holder of the financial institutions. Therefore, the attainment of the statutory requirement of minimal capital is key in the deciding of the capital adequacy, and in the maintenance of the capital at an adequate level, which is a critical element.

Asset quality

The indicators of asset quality can be used to tell the use of NPLs that are the proxy asset quality (Frost, 2004). Further, they are an allowance or a provision to the losses of loan reserves. Lackluster asset quality is one of the leading causes of bank failure and loan non-payment (Grier, 2007). The loan portfolio comprises one of the most important categories of assets. This is because the most risky situation a bank is likely to face is that of loan losses that is posed by the possible delinquent loans. Credit analysts ought to carry out an assessment of asset quality through the performing of management of the credit risk and the evaluation of the loan portfolio quality by the use of peer comparison and trend analyses. Therefore, it becomes hard to determine the size of the asset quality because most of it is derived from the subjectivity of the analyst.

Management quality

According to Grier (2007), management should be considered as a single and the most important tool in the system of rating of CAMEL. This happens due to the important part that management plays in the success of a bank. However, the management quality is still subject to the measurement as an examination of the asset quality. Quality of management can be defined as the ability of the directors' board and the management in identifying, measuring and controlling the institution's risky activities (Uniform Financial Institutions Rating System, 1997). Management quality is also referred as management efficiency, which contains the parameters signaling the ability of the board of directors, senior bank managers to identify, measure, monitor, and control risks associated with the bank. Management efficiency is an important element of the CAMEL model since it involves taking crucial decisions depending on its risks perception. It sets visions and goals for the organization and sees that it achieves them. This parameter is used to evaluate management efficiency

as to assign premium to better quality banks and discount poorly managed ones. Either total expenditure to total income, total advance to total deposit ratio, asset turnover ratio, diversification ratio, and profit per employee or business per employee can measure management efficiency.

Earning ability

Agreeing with Grier's (2007) view, regular profits builds both the confidence of the public on the bank and the absorption of the losses from loans. It also provides sufficient provisions. Moreover, to have a provision of shareholder reward, it is necessary to have a balanced financial structure. Thus, to sustain the banking institutions, it is necessary to have consistent healthy earnings. Therefore, a company's ability to generate profits from the revenues and assets can be measured by the profitability ratios.

Liquidity

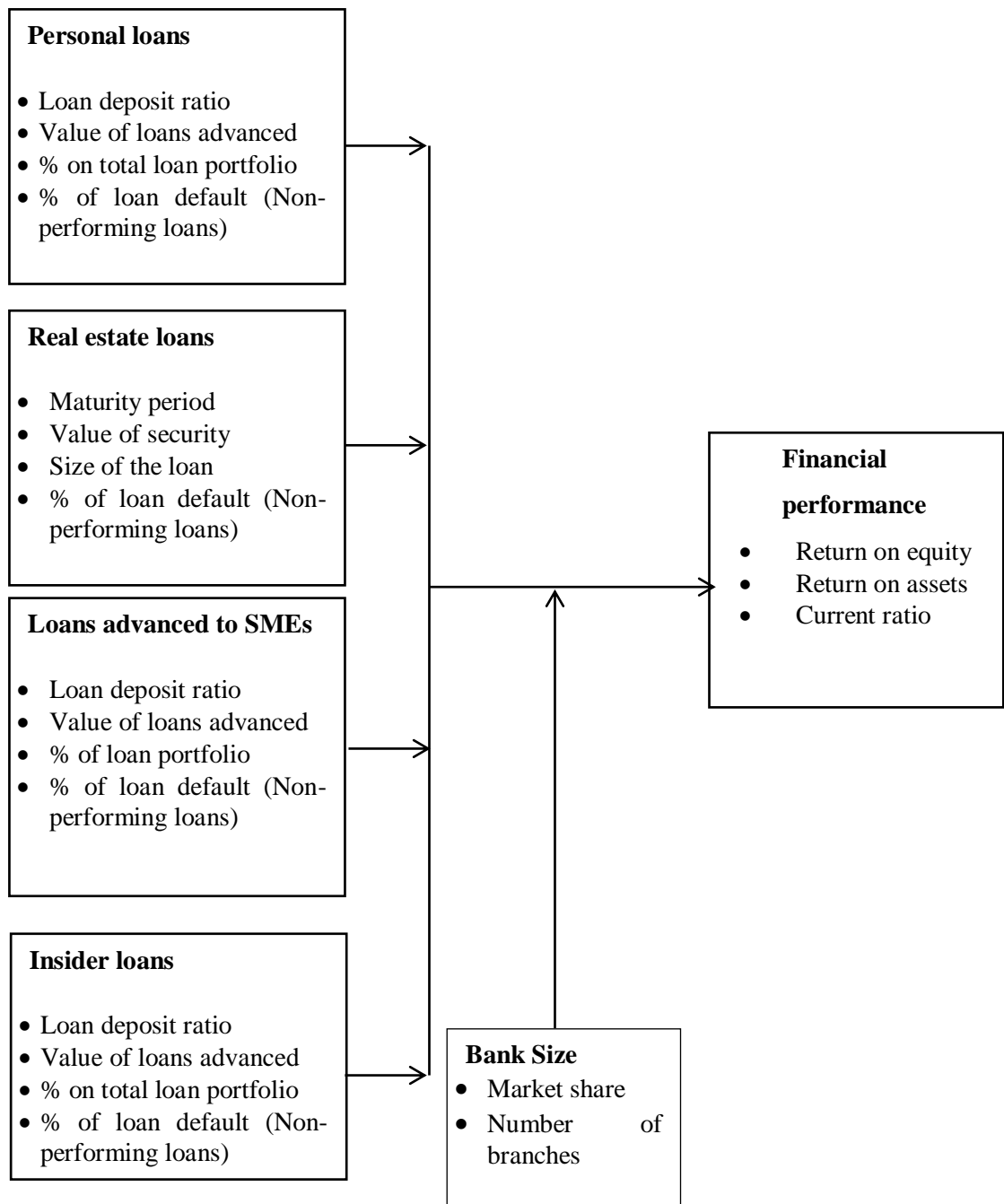
An emphasis from Grier (2007) is put on the liquidity reflects the extent to which a bank is able to fulfill its respective obligations. Through the mobilization of lower interest rate on short-term deposits and a higher rate of lending or investing on long-term projects helps banks to make money. It is therefore dangerous for banks to miscalculate their interest rate on lending. The estimation of financial performance is based mainly on financial ratios. Liquidity sources ought to be adequate in comparison to the present and the future needs, and the asset availability that can easily be converted to cash without incurring unnecessary loss. Maintaining of a level of sufficient liquidity by institutions is the work of a fund manager in that institution. Further, this liquidity should be sufficient to meet the financial responsibilities in time. It should also be capable to liquidate assets quickly without making more losses (Uniform Financial Institutions Rating System, 1997).

The study utilized the CAMELS model in the following way: Capital adequacy (C) the indicators of capital adequacy in the study were the total number of branches as key performance indicator of bank size, which is a moderating variable. Asset Quality (A) the ratios of asset quality form part of the main risks that face banks.

Since loans have a high risk on defaulting, an increase in the number of NPLs is an indication of the asset quality deterioration. The study used the model by looking at the loan deposit ratio, value of loans advanced, value of security and loan default rate in each component of the portfolio. Management efficiency (M) is a qualitative issue such as the ability for risk taking and stewardship of the bank's assets in terms of management and administration, the study utilized this aspect by structuring the questionnaire to collect some data from senior managers on their views regarding the credits and loans they issue and the administration aspect on such loans. Earning ability (E) is among the most crucial tools for the performance measurement of banks. The ratios that are used in the study to reflect this aspect include equity returns and assets returns. Liquidity (L) measures the ability of the institution to realize the funds expected to be claimed by the depositors, this could be analyzed by the use of liquidity ratios such as current asset ratio. The sensitivity (S) uses sensitivity ratios to define the power of an institution in relation to the sector in terms of total asset/sector assets, loans & receivables/sector loans & receivables, risk of interest rate/exchange rate.

2.3 Conceptual Framework

The conceptual framework refers to the tool that helps the reader to have a quick glimpse into the study's proposed relationship between variables (Mugenda & Mugenda, 2003). This section will discuss the conceptual framework that has been used in the analysis of the loan portfolio influences on financial performance of Kenya's commercial banks. The independent variable is loan portfolio whose key performance indicators include personal loans, Real estate loans, SME loans and insider loans. The dependent variable is financial performance whose key performance indicators are return on equity, return on assets and the current ratio while bank size is a moderating variable.



Loan Portfolio

Independent variable

Moderating Variable

Dependent Variable

Figure 2.1: Conceptual Framework

This section of the conceptual framework shows various researchers done in different countries in relation to the financial performance of banks and loan portfolio management. The researcher started by reviewing empirical studies which inferred the existence of significant influence of loan portfolio on financial performance and on reviewing the empirical studies that confirmed of positive effect of loan portfolio management on banks financial performance. Later revision of these studies showed the negative relationship of loan portfolio and banks financial performance.

2.3.1 Personal Loans

The Commercial Banks chief function is deposit mobilization and money lending so that it may earn interest. The performance of depository financial institutions is tested by the extent of how much money has been lent and the proportion of the loan book that is performing, Kenya Banking Act (2001).By using unsecured loans, commercial banks lure salaried individuals into opening accounts and channeling their salaries through them. This has led to increased access to unsecured personal loans. Additionally, Commercial banks have also changed their strategic view of their operating environment, a factor that has enhanced access to unsecured personal loans (FSD Kenya, 2009).

Due to the contentious nature of the situation within the sector, more encounters of bad loans in Kenya are continually experienced by Kenya's commercial banks hence considered a serious issue. Although there are no specific repercussions concerning the situation revealed, other evidences suggest that, there is certainty that bad loans can escalate the shaky banks' financial condition. On a broader perspective, the key consequence of bad loans on the banks is the limitation of financial growth experienced by banks (Karim, Chan, & Hassan, 2010).

Because of the deprivation of needed liquidity from the banks by bad loans, these consequences limit the ability of banks to fund other viable projects and making credit available to individual customers. A number of viable business projects that banks may not look into because of the limitation imposed by the bad loans. According to the World Bank Report (1994), when the consequences manifest, there is a corresponding shortfall in the revenues generated. Further, this translates into a

reduction of the financial performance (Karim et al., 2013). Another effect experienced by banks because of bad loans is the decline in the lending potential of a bank (Karim, Chan, & Hassan, 2010).

It is important to discuss this primary independent effect of personal loan on lending activities of the banks since it forms a banks' greatest source of revenues (Karim et al., 2010; Nguta & Huka, 2013). Therefore, there are possibilities that a greater amount of revenues is lost when banks incur bad debts. A fall for revenues generated by a bank in a financial year definitely affects the ability of the bank in providing credit services in the following year. Therefore, a bank is likely to stop in giving loans, or reduce the lending limit in the following financial year. The annual allocated amount to lending is known as "annual percentage loan size in the portfolio" in this study.

Some scholars have noted the cause of bad loans as debtors failing to make payments on their interests and loans within scheduled timetable inadvertently imposing debilitating effect on the creditor's financial status (Aballey, 2009; Agu & Okoli, 2013). Based on this study, a bad loan is a consequential effect of the failure of a person not being able to repay their loans. This results in a negative effect on commercial banks financial performance. Rationally, the name 'bad loans' is derived from the fact that such loans are opposed to the financial situation of a bank. When it reaches a point of refereeing to a loan as a 'bad loan', it means that there is no indication of the repayment of the loan and the interests (Awunyo-Vitor, 2013; Chelagat, 2012).

Therefore, instead of gaining profits, a loss is incurred which leads to a further unfavourable effect on the commercial banks. In addition, the defaulters get affected in case they desire to borrow in the future times. Due to the multidimensional nature of the bad loans, there is a need to avoid them. In this light, beyond hindering the commercial banks' financial performance, the bad loans also inhibit lending to the SMEs, persons and the corporations that default in their repayments. Studies conducted show that the bad loans effect on banks concerning the financial performance like the return on the investment or even the net profit, and the lending

potential as indicated by the annual loan size, is real and practical. These studies were noted from a foreign and domestic perspective. Hoque and Hossain (2008) used three regression models to establish evidence on their perspective on their successful test of the relationship between the loan defaults and the higher rates of interest. They made a suggestion of rationalizing the policy of interest rates. Further, it was concluded that loan defaulting could be linked to the high interest rates increasing the burden of debt on borrowers. This leads the act of defaulting, which further yields an erosion of bank's capital.

Asari et al. (2011) conducted a research on this same field and made a conclusion that NPLs and the interest rates have a remarkable correlation. Further, this research study proposed that the increase of NPLs causes the banks' assets to deteriorate and consequently experience capital erosion. Among the closely watched and critical variables is the volatility of the interest rates of an economy. The connection found between the average rate of interest and Adela and Iulia (2010) have demonstrated the NPLs in a paper. In conjunction with them, Dash and Kabra (2010) discovered that aggressive firms, which charge high rates on loans, incur a high number of NPLs.

Kaplin et al. (2009) did an empirical study that bolstered a negative correlation between the volatility of interest rates and the loan defaults. The study used a large data from non-financial US firms for a period of 1982-2008. Their study found no correlation between the rates of interest and the loan defaults. This was after the conditioning of the anticipated default frequency on the credit measure. While studying the real estate defaults, Capozza et al. (1998) found out a reduction in the defaulting effects because of the increase in the volatility of the interest rates. According to their theoretical and statistical analyses, they made a proposal saying that empirical studies are likely to encounter hurdles in the conclusion of significant effects of the volatility of the interest rates and loan defaults. Instability of the rates of interest poses a greater risk for the banks' assets side.

The risk on returns of banks is increased by the ebb and flow, which yields in an increase of NPLs. Patnaik and Shah (2004) centered their study on the Indian banks'

volatility on the interest rates and their exposure to the relevant risk. They have demonstrated the need to measure the interest rate risk exposure by banks. Further, they suggested that it is important for the evaluation of policy by regulators with special attention given to the interest rate shocks effects on the bank's equity. A conclusion drawn from their study stated that Indian banks experience relatively small difficulties than those of the other developing countries because the banks in India have their credit risks controlled by the interest rate risk management exposure. The increase of both the NPLs and the volatile interest rates destroy the private sector growth and leads to an increase of the losses, which eventually leads to the reduction of the equity of a bank, which is a situation relative to a self-cannibalism state. (Fofack, 2005).

Sticking with view above, analysts have tried to do empirical tests on the ramifications of lending interest rates on the swelling NPLs on the bank's portfolio. The specific of these studies is directed to the developing countries that struggle with limping economies. Asari et al. (2011) research focused on this same subject and the conclusion was made that the interest rates relate significantly with the NPLs. Fridson, German, and Wu(as cited in Kaplin et al. (2009) kept their focus on the relationship between interest and default rates. In their study, they used the Moody's quarterly default rates on the high-yield bonds for a period starting from the year 1971 to year 1995. They found out a weak but positive correlation to the normal rates of interests. Concluding from this literature, there are little studies that have been done to address the ramification of personal loans on the banks' financial performance.

2.3.2 Real Estate Loans

Over the years, mortgage finance companies have held monopoly over real estate financing but recently commercial banks have begun participating in mortgage financing (Kithinji, 2010). The efficiency of a housing finance system has important effect on the needs pertaining to housing of individuals and in the reinforcement in the development of the construction, finance and other related sectors of an economy. Banks that offer mortgage loans hold diversified portfolios of mortgage

loans and therefore spreading risks in a way that would be impossible if the individuals were directly making mortgage loans. Since commercial banks are large in size and number, they gain in economies of scale. They are also better equipped to, set up loans; analyze credit and making collections reducing the costs of processing loans and subsequently increasing the availability of real estate loans. Mortgage financing necessitates borrowers to contribute financially to finance part of the cost of property by making a down payment.

Considered as a diversification of strategy, the provision of Real Estate loans is done by some commercial banks, which expect to minimize their loss risks that they face through the unsecured NPLs (Lipunga, 2014). Banks that offer Real estate loans hold diversified portfolios of Real estate loans and therefore spreading risks in a manner that would be impossible if persons were making Real estate loans directly. Since commercial banks are large in size and number, they gain in economies of scale. They also have more expertise in analyzing credit, setting up loans, and making collections than persons; thus, reducing costs of processing loans and subsequently increasing the availability of Real estate loans. The financing of Real estate requires borrowers to part with some of their savings to finance part of the cost of property by making a down payment. This in turn lowers the correlation of the nonperforming loans to total loan portfolio of the bank (Kimeu, 2008)

According to Kithinji (2010), the approval of loans that are not well examined by the commercial banks has led to the cases of loan defaulting, NPLs, massive credit extension and a directed lending. Policies aimed at minimizing the experienced negative effects focus on the bank mergers, and better practices on banking with frugal lending. Further, the law reviews to align them with the international standards, well-capitalized banks that have high profit expectations, liquid banks with the capacity of meeting their depositor demands and the maintenance of the needed levels of cash by the central bank indicates an availability of limited capital for lending.

This phenomenon has led to the decrease in the commercial banks' interest income, which has further led to a reduction in the profits. Also, the banks have drawn their

focus into the collateral as a security of loans. The collateral sometimes, causes the banks to overlook their risk mitigating forms. Jarrow and Van Deventer (1998) saw a credit default as an inability of the borrower to make payments concerning the agreed loan terms. The main aim of the management of the risk that comes with credit by banks is to maximize the banks' risk adjusted rates on returns through the maintaining of the credit risk exposure that is done within the acceptable parameters.

The provision of finances or the financing or capital for house purchase or building is what is referred to as real estate. It also means the required capital for the housing construction. It can also mean the required resources to facilitate an acquisition of a house. It still can be defined as the credit given by the housing finance institutions against certain collateral (Dymski, 2006). In the international real, various institutions are concerned with the lending activities with a major focus being on the projects in real estate. These institutions include the commercial banks, real estate finance companies, savings and credit co-operatives (Sacco), Parastatals, pension scheme funds, trust funds and other real estate investment institutions (Lwali, 2008).

Different from the unsecured loans, the real estate loans or financing is some sort of secured loan whereby the project itself or the real estate property is used as a security for the advanced loan by the lender (Macharia, 2013). The builders or the real estate customers can get their financing for purchase or securing from banks or other financial institutions. The loans can be gained directly or indirectly through the help of intermediaries. The characteristics of real estate loans like the size, interest rate and maturity, the payment method and many others vary in a significant way (Kluger & Miller, 1990). However, as noted in most countries, there is a norm for the home and the housing projects to receive funding from real estate loan. This happens because few individuals have sufficient savings or liquid cash that can enable them purchase a property directly. Countries that experience high demand for home ownership have developed strong markets (Aalbers, 2008). Globally, the institutional investors dominate the real estate market. This is a big challenge to the private developers in the real estate market because private properties do not experience a quick exchange like the bonds and stocks do (Lwali, 2008). Different from the

developed countries where stocks and bonds are used, real estate financing dominates the developing countries.

Real estate industry experiences cyclical effects that are caused by the local and national economic conditions. Given that the national conditions impact on the overall industry of real estate, the effect of national conditions on the local conditions is of great importance. Consumer demand, rate of employment, formation of households are factors that affect real estate and they vary greatly in different states, cities, and towns. In the metropolitan markets, there are various sub-markets where there are variations in the property values and demand. These attributes are impacted by numerous issues such as the demographic composition, geographic nature, transportation, recreation facilities, schools, local government, tax burden, utility infrastructure, availability of houses, zoning and building codes and the availability of lands space for more development (Dirnhofer, 2012).

The loans issued as real estate are long-term in nature. The periodical payments are similar to the annuities and are calculated based on the time value for money formula. The most basic payment plan is the acquisition of a fixed monthly payment plan. This plan can run from 10 to 30 years depending on the agreed upon conditions. In this period, the principle amount is paid gradually through amortization. In reality, there are many variants that are factored in, which are common worldwide and within the countries (Tse, 2002). This study was intended to link the real estate loans and financial performance of banks given that majority of commercial banks are luring both individuals and companies into taking this form of loans.

2.3.3 SME Loans

The principle and established financial source available for the SMEs is the commercial banks. The European Central Bank (2011) indicated that a total of 40% firms are using the overdraft facilities and or, the credit terms. Further, over a third of the firms are said to have borrowed from banks. According to Longenecker, Moore and Petty. (2012), the commercial banks are the main issuers of capital debt to firms. The firms with a record of accomplishment and enough collateral are given preference by the banks. These two aspects are hard for the SMEs to obtain.

The failure by SMEs to access bank loans is linked to the information asymmetry. According to the finance gap hypothesis, the shortage of financing on the SMEs results from the asymmetry of information (Berger & Udell, 1998; Vos, Yeh, Carter, & Tagg, 2007). Further, Behr et al. (1997) notes that the issuance of loans in the developing countries, particularly the issuance of loans to the small businesses is greatly afflicted by the information asymmetry between the borrowers and lenders. Therefore, startups with a potential to expanding face difficulties in getting external sources of finance. They have to rely heavily on the internal funding of the business or seek informal external financing like family, friends and well-wishers. SMEs rely on their internal sources of funding because there are significant issues that arise with the external funding (Pissarides, Garibaldi, Olivetti, Petrongolo, Wasmer, 2005).

There has been a remarkable progress in the advancement of the theoretical knowledge base of the effect of the information irregularity on optimal loans (Bester, 1985; Nofsinger & Weicheng, 2011; Peltoniemi & Vieru, 2013; Stiglitz & Weiss, 1981; Vos et al., 2007). Information asymmetry is a situation where the entrepreneurs have more information pertaining to the business prospects and risks involved than the lenders do. According to Verrecchia (2001), information asymmetry refers to the cost on capital difference that arises from the presence or absence of a hostile selection issue, which is caused by the information asymmetry.

Empirical studies have pointed out the contribution of commercial banks to the financial performance of SMEs both regionally (Ahiabor, 2013; Agyei, 2012; Gyamfi 2012; Mensah, 2004; Quaye, 2011); and locally (Hassan, 2008; Wangai, 2012). At the regional level, lending activities among commercial banks support the growth of SMEs in virtually all regions of Ghana Ahiabor, 2013; Agyei, 2012; Gyamfi 2012; Mensah, 2004; Quaye, 2011). This situation is also a common feature of other countries such as Malaysia (Zulkifli-Muhammad, Char, bin Yaso, & Hassan, 2009), Nigeria (Obamuyi, 2007), China (Wang, 2013), Kenya (Mwobobia, 2012) and Iran (Hassan, 2008). As a result, the contribution of commercial banks to the growth of SMEs is not limited to one country or jurisdiction.

According to Amina (2009), the financial sector is likely to have more effect on the company's development in two ways. One is an all-around financial framework that permits the organizations to have admittance to financial services, which they are regularly having a limited access to. They need access to an extensive cluster of financial services, like the saving avenues, payment tools, insurance, and credit. Two, a financial sector can indirectly add to the company's development, as a broadened and aggressive financial sector assumes a vital part in the economic advancement.

Banks need to have some information on a firm's performance before issuing a loan to guarantee that the venture is commercially feasible. In any case, it is not promptly accessible from SMEs, and proprietors of micro enterprises have increasingly detailed information concerning their firm's performance than the banks do. Storey (1994) noted that "proprietors of small enterprises are likely to be better informed about the business than an outsider such as a bank" (p. 205) Therefore, banks lack adequate information on SMEs to enable a proper administration of credit. The high expenses of settling information asymmetry can make it tough for the little enterprises to get credit (Laeven & Luc, 2001). This feature therefore, causes the small companies to be offered less loans or high rated capital as compared to the rates given to large firms. Insufficient information influences the eagerness of financial institutions in supplying loans to little firms due to vulnerability. These issues prompt the presence of a "debt gap," wherein commercially suitable businesses are limited towards the acquiring of the loans (Binks, Ennew, & Reed, 1992).

Further, the conditions of bank may escalate financial limitations that arise from information asymmetry, motivation difficulties, and the lack of or limited guarantees. Financial intermediaries, consequently blocking the financing of significant business opportunities, may do a restriction on the provision of loans to some organizations. Lehmann and Neuberger (2001) clarify that when banks acquire more information about borrowers, there is limited motivation towards the setting of loan contract terms that incorporate the rates of interest and the requirements of collaterals. In this way, banks concentrate more on the estimation of the value of the offered collateral

in a period of financial distress when information available is asymmetrical. Chan and Kanatas (1985) demonstrated how collaterals enhances the estimation of the anticipated returns to lenders when there is an information asymmetry; that is, the collateral can fill in as an indirect source of more information that a lender may need to make a rational anticipation of the client in the context.

There are some collateral roles that when a proprietor has more information on them and the likelihood of success of a firm than the bank does (Dang, 2011). First is that the collaterals help to limit the drawback misfortunes by giving assets to banks in case of a venture disappointment. Second, collaterals give motivations to business owners to confer themselves to the venture. Third, collaterals give signs to the bank that the proprietor trusts his business venture may succeed because the proprietor cannot submit their assets as collateral if they are expecting to incur losses in their venture. Guarantees become an issue for little firms since they do not possess more valuable, assets that are fixed to use as security at their birth stage. Thence, the absence of guarantee is frequently one of the principle factors that keep away little business ventures from applying for bank loans.

A cross-sectional survey study on the climates of investment and the business surroundings done by the World Business Environmental Survey on ten thousand firms from eighty countries between 1999 and 2000 confirmed the above statements. Another survey that was a joint effort between the World Bank and the European Bank called Business Environment and Enterprise Performance Survey (BEEPS) was done to support the same sentiments on loaning the SMEs. This survey collected data based on the ease of financing access. There were two surveys conducted in the Soviet Union, Eastern Europe countries and Turkey in 1999 and 2002. Further, there has been a review on the investment climates on 58 states, which was focused on 32,000 companies. The Investment Climate Assessment (ICA) did the review and all this confirms that the main source of financing the SMEs is through loaning.

The SMEs' desire and will of borrowing from the banks and other formal financing institutions is met with a number of limitations, which compel SMEs to seek funds from the informal financing sources (non-banks). Such sources rarely need security

and detailed business information. Bhaired and Lucey (2010) affirmed that the individual assets of company proprietors and assets from the friends and families are critical in firms that experience low turnovers. Advancing loans is among the primary sources of revenues (interest revenues) in banks and further, a credit risk source. Thus, the management of the identified risk with that credit influences the financial performance of the banks (Li & Zou, 2014). The banks accept deposits give loans to borrowers. In this manner, banks are unavoidably presented to credit risk.

Chen and Pan (2012) asserted that loan risk is the level of significant worth variances in the tools of debt and subsidiaries because of the alterations in the basic quality of loans to borrowers and their counterparties. The management of the credit risk optimizes the adjusted return rate for banks through the maintenance of a credit risk exposure at the acceptable levels to give a structure of understanding the effect of management of the credit risk on the banks' financial performance (Kargi, 2011).

Demirguc-Kunt and Huizinga (1999) stated that the management of risks associated with credit is in duplicate, which incorporates the acknowledgment that after misfortunes occur, they wind up agonizing the advancements in securitization, commercial paper financing and other rivalries on non-bank transactions that drives the banks to search for new, suitable borrowers of their loans. The credit risk's principle source incorporates the restricted capacity of institutions, unseemly loan strategies, low capital levels, unstable financing costs, low liquidity levels, inadequate management, improper rules, direct loaning, huge licensing by banks, uninformed endorsing of loans, laxity on credit appraisal, poor loaning hones, government obstruction and insufficient monitoring by the central bank (Kithinji, 2010). An expansion in bank credit risk bit by bit prompts liquidity and dissolvability issues. This study factored in all the aspects of SMEs loans from commercial banks and assessed the influence such loans have on the financial performance of the same bank.

Different measures can be used as indicators of SME loans through accounting measures, which includes value of short term SME debt, Value of long term debt and total debt as a ratio of total loan portfolio (Abor, 2005, 2007; Kyereboah-coleman,

2007). Debt/Equity ratio is a crucial instrument of financial analysis in evaluating the financial buildup of a firm. According to Upadhyay and Sriram (2011), debt/equity ratio gives the creditors and owners of a firm a very important viewpoint to the implication of the business, since it displays the relative size of equity and debt in financing the assets of the business. Ever since SMEs are not trading in the financial markets book value is found to be a better measure of their capacity to be loaned. Using the book value measure, book value of debt is divided by book value of equity. SMEs tend to face higher costs for bank finance as evidenced by the interest rates charged compared to bigger corporations and this is due to the perceived high level of risk to default in repayments. A simple comparison between small loans and very large loans shows that SMEs pay more than large companies with higher rejection rates of loan applications of SMEs (Ozbas, Duchin, & Sensoy, 2010). SMEs face more financing obstacles than large firms due to their financial position (Lorenzo-Seva, & Ferrando, 2012). Indeed, when linking information on the financial health of SMEs with the actual financing obstacles they experience, it turns out that firms with higher leverage and interest payment burdens as well as lower profits tend to be more affected by financing obstacles than SMEs.

However, it is worth noting that in conjunction with credit constraints, several other issues have an impact on the environment in which SMEs operate. For instance, they are more affected by downward trends in the economy and structural rigidities (Anderson, 2004). For instance lack of demand for their products, high input prices, unfavorable regulation, heavy administrative burdens, and inflexible labor and product markets. Since such factors differ across countries, the financing costs of SMEs will inevitably also vary. Keeping this in mind the effectiveness of SME loans in a portfolio can be assessed by looking at how different SMEs deposit the borrowed amount, how much of the value lent, what is the percentage of this loan in the total portfolio and the aspects of any default.

2.3.4 Insider Loans

Insider lending comprise all the credit advanced to the chief executive and executive officers of a bank (CBK, 2015). Insider lending as defined by (Laeven, 2001) are the loans and advances availed to internal persons in an organization that maybe related to the institution through shareholding or the capacity to control variables that are more advantageous than would be economically justified. Borrowers could offer incentives to bank managers in order to persuade them to bend the controls so as to grant them access to loan facilities at favourable rates. Insider loans do not consider the ability of repayment of the borrower. A major shareholder on the director's board could force the bank to offer favourable advances by employing tactics such as the threat of being laid off. Insider lending thus tends to involve large shareholders (Laeven, 2001).

According to the moral hazard theory (Arkelof, 1970), Loan customers may fail to repay their financial debt obligations due to incentives that arise after loan transactions have been executed. As such non-performing loans arise; insider loans often comprise such bad loans. Previous bank failures and regulatory seizures in Kenyan financial sector have been attributed to unchecked insider lending, often to politicians, executives members, and board members, without regard to ability to repay cardinal rule (Kamau & Juma, 2014). According to the Prudential Guidelines issued by the CBK, insider lending comprises all loans and advances to a bank's executive directors and chief executive officers and other senior employees (CBK, 2015).

Insider lending could involve a borrower giving incentives to a bank manager to bend controls and laws so as to offer a loan facility at favourable rates to the borrower; these insider loans might breach the ability to surface the loan. A large shareholder in the board of directors could overtly or covertly coerce bank leadership through the threat to fire, to access the favourable loans. Insider lending thus tends to involve large shareholders (Laeven, 2001). A manageable level of insider lending is permissible; excessive levels might lead to losses that often might threaten continued existence of a bank which in turn can raise the issue of NPL's across the internal

stakeholders. According to Nishimura, Kazuhito and Yukiko (2001), fundamentally, Japan's drawn out economic stagnation is because of the NPLs or the bad loans issue that was attributed more to insider lending. They argue that a part of the loans provided to firms and businesses by the institutions of finance amid the bubble period was issued to borrowers who had a relationship with the commercial banks hence the loans progressed towards becoming NPLs when the bubble burst. The risk attached to such a loan facility is the likelihood that the loan may not be repaid as and when due (Ogbuagu, Udoh & Udoh, 2016). Insider loans are often the major reason for large non-performing loan portfolio in some commercial banks; the extension of loans and advances done outside the arm's length basis involves loans to company promoters, directors and other key stakeholders that become bad and doubtful, and irrecoverable.

Nonperforming loans portfolio has negative effect on bank profitability thereby exposing banks to financial risk (Ugoani, 2016). Insider lending is often characterized by less stringent conditions underlying the facilities; there is an adverse relationship between less prudent lending and net interest margin (Berrios, 2013). According to moral hazard theory (Akerlof, 1970), borrowers and specifically insider borrowers have the incentive to dishonor loan terms after benefiting from the funds advanced. These insider borrowers are privy to the relaxed terms that allowed them access to the loans; they may willfully or inadvertently fail to repay their dues.

This phenomenon delayed the changes in the structure and barred the system of the financial intermediaries from working appropriately. Fernandez, Jorge, and Saurina (2000) noted in their study that the development credit sector of the banks in Spain and its wide ramifications as an all-time factor on the banking directors' agendas, since most of the crises situations on banking have been caused by a direct insufficient credit risk management by financial bodies. They additionally state that despite the fact that bank managers are aware of the issue, it is extremely hard to induce bank chiefs to follow a more reasonable credit management amidst an upswing in the economy, particularly in an exceedingly competitive situation. They assert that even moderate administrators may find it difficult to make profits in a market that has high pressure for more revenues.

As indicated by a World Bank report (1994) in Uganda, to a greater degree, the country's industry is portrayed as powerless, with many NPLs and a few banks staggering and at the edge of crumbling. Mukalazi (1999) takes note of this in an article in *Reeling Global Journal of Finance and Banking Issues* Vol. 3. No. 3. 2009. To help in the addressing of the risk of the management of credit in the Ugandan banks, the legislature has presented an act aimed at addressing issues like insider loaning, taking after the current outrage where billions of shillings were issued out as loans with insufficient security to Greenland Bank by the recently privatized Uganda Commercial Bank Ltd. The act also looks to reduce proprietor concentration (Mukalazi, 1999). The CBK characterizes the non-performing loans as loans that fail to be honoured according to the initial contract. These loans increase the risk of the financial institution to more potential misfortunes (CBK, 1997). It is needful to note that NPLs allude to accounts that have unpaid principals or interest to a time of up to 90 days or even more after due date.

The Central Bank of Kenya Supervision Report (CBK, 1999) stated that the amount of NPLs has been expanding gradually from a low of shs.56 billion, to Shs. 83 billion to shs.97 billion in the years 1997, 1998 and 1999 respectively. This abnormal state of NPLs keeps on being a challenge to many supervisors in Kenya. As study by Brownbridge (2008) showed a large portion of the bank disappointments were brought about by non-performing loans with a bad trend on insider lending. Overdue debts influencing the greater part the loan portfolios were an indicator of failed banks. A significant number of the bad debts were inferable from good danger: the antagonistic impetuses on bank proprietors to receive hasty loaning procedures, more so to insider loaning and loaning at high financing costs to borrowers found in the riskiest fragments of the market of credit. Brownbridge (2008) said that the sole greatest cause of the NPLs of a large portion of the local banks was the insider loaning phenomenon. 50% of the bank's disappointments were accounted for by insider loans. The majority of the bigger nearby bank disappointments in Kenya, for example, the Continental Bank, Trade Bank and Pan African Bank, included board insider loaning, frequently to government officials.

The risk postured by insider loaning to the wellness of monetary institutions was aggravated in light of the fact that a hefty portion of the insider loans were resources put into theoretical tasks. For example, Real bequest advancement, broke huge loan introduction constrains, and reached out to activities which could not produce here and now returns, (for example, inns and malls), with the outcome that the developments liabilities and assets of the banks were impulsively crisscrossed. The study refers to three powers backing insider loaning and records them as political weight, under-capitalization, over focus in possession. To promote the study, the second central point adding to bank disappointment were the high financing costs charged to borrowers working in the high-risk fragments of the credit advertise. This included components of good peril with respect to both the banks and their borrowers and the unfriendly determination of the borrowers.

Daumont, Le Gall, and Leroux (2004) found the collection of nonperforming assets to be owing to economic downturns and macroeconomic instability, terms of exchange crumbling, high loan fees, intemperate dependence on excessively expensive interbank borrowings, insider loaning and good peril. Ngugi (2001) breaking down loan fee in Kenya found an enlarging financing cost spread after loan fee advancement portrayed by high certain expenses with tight money related arrangement accomplished through expanded hold and money proportions and declining non-performing assets. As indicated by Kithinji and Waweru (2007), that banking issues is back-dated as right on time as 1986 coming full circle in significant bank disappointments after the emergencies of 1986 to 1989, 1993/1994 and 1998; they credited these emergencies to NPAs which is because of the loan cost spread.

Ngugi (2001) gave an alternative explanation on the spread of interest rates. He examined financing costs from 1970 to 1999 as they appear to be spread in Kenya. He found out that loan fee spread expanded based on the productivity expected and high costs of intermediation. The rise in the spread of the post-advancement era was ascribed to the inability to satisfy the requirements for effective financial changes, the slack in receiving turnover fund related strategy apparatuses and improving the legitimate framework and banks' endeavors to keep up debilitated overall revenues from expanding the risk on credit to the degree of non-performing assets. The study

ascribed the high levels of non-performing assets to bad conditions of the business and distress borrowing attributable to the lack of option for source credit when banks expanded the loaning rate, and the frail lawful framework in requirement of financial contracts. This point might as well explain why banks turns to insider lending as a way of cutting down on information costs and employee retention strategy.

Many other countries have had studies aiming to unearth the cause of NPLs and insider lending. For instance, Spain was found to have been aware of supervisor's role on the direct association between the insufficient credit risk management, employees and the banking crises (Fernandez et al., 2000). However, these authors continue to state that the central bank supervisors find it difficult to make follow-ups on the bank managers who are supposed to establish prudent policies on credit in times of economic pressure on making more profits more so majority are the beneficiaries of insider lending. In such circumstances they say, even the conservative managers face difficulties in the face of the market pressures on making more profits for insider loaning and repayments. A study done on the situation of Japan by Nishimura et al. (2001) made a conclusion that the bubble era companies declined in their performance at the burst of the bubble hence dealing a blow to the funds loaned. NPLs and insider lending are a reflection of the many wrong decisions made by the people or just an incidental bad luck like the weather changes, and sudden price alterations in certain markets (Gorter & Bloem, 2002). Further, Brownbridge (1998) made an Africa relevant conclusion by saying that bad debts were as a result of the moral risks; the unfriendly incentives on the owners or managers of the banks in pursuing illogical loaning strategies. In particular, Brownbridge noted the insider loans and the costly interest rates on loans given to the riskier sectors of the credit market. Further, borrowers try diverting loans issued to more risky ventures that have promising high returns.

Commercial banks have utilized distinctive procedures in endeavor to decrease the level of misfortune brought on by NPLs and insider loaning. In Japan among different methodologies, they seek after a loaning procedure supported by fitting assessment on the credit risk (Bank of Japan as cited in Waweru & Kalani, 2009). In China, the turning over of the non-performing loans to management organizations of

asset was demonstrated effectively (China Daily as cited in Waweru & Kalani, 2009). In Kenya, commercial banks move far from fixation on security based loaning and cut more accentuations on the client capacity to meet the loan reimbursement. Decrease of loan costs nonetheless, was seen to be an effective move made by bank management. Others were for the most part connected with legitimate evaluation of borrowers specifically utilization of credit point of confinement proportions, in light of money streams, utilization of estimates and the study achievability and utilization of standard loaning system (Waweru & Kalani, 2009). Commercial banks' business nature opens them to risks in many ways. One of them is related with default from borrowers.

Demonstrations from the existing literature shows that borrower default is likely to be caused by variables outside or/and inner to the bank. Given the way that outside variables are wild by Commercial banks, accentuation on handling inward components is normal. Insider loans aspect has been linked to financial performance of banks in this study since the available literature indicates that this type of loan is on the rise and the collapse of some banks has been linked to it, therefore the study was to find out the exact influence of the same in the financial performance of banks.

2.3.5 Bank Size and Financial Performance

Bank size is another element that researchers have focused on in connection to the performance of commercial banks in the finance sector. Bank size is measured based on the assets base, number of branches, number of clients and capital base. The consequences of these reviews have additionally been clashing since researchers have not possessed the capacity to concede to whether estimate really affects financial performance of commercial banks. Goddard, Molyneux and Wilson (2004) recognized just slight connection between the measure of a bank and their financial performance.

Another researcher Smirlock (1985) did a study that demonstrated the huge and positive relation between the bank's size and its financial performance. This is related with the way and the greater the extent of the bank lowers the cost of raising capital and along these lines the higher the financial performance proportions. Different

reviews by Bikker and Hu (2002); Goddard et al. (2004) concur with the past study and they take note of that an expansion in the bank's size affects that bank's performance financially because of the way the cost of looking for capital for that bank is lessened altogether. It is however imperative to note that researchers have had no accord on whether an expansion in the extent of the bank through expanded assets gives economies of scale to commercial banks, which in the end prompts the enhanced financial performance. In this way, this issue should be assessed further through more reviews.

Among the determinants affecting the level of the performance in the finances of banks, capital is one of them. Capital in this context alludes to the amount of funds owned by the bank and can be accessed to bolster the business of the bank in case it is affected by an adverse condition (Athanasoglou et al., 2005). The bank liquidity is created by its capital because the deposits available are more fragile and open to bank runs. Further, according to Diamond and Rajan (2000), a large capital of a bank minimizes the chances of distress. Nevertheless, there are downsides that results from the inducement of a weak demand for the liability. The cheapest source for sufficient capital fund is the amount the banks require to overcome the credit risks, and risks the market operations that a bank is vulnerable to. This enables them to handle effectively the possible losses and safeguard the bank debtors.

Dang (2011) argued that the capital ampleness is gauged based on the capital adequacy ratio (CAR). This ratio demonstrates the bank's internal strength to overcome the misfortunes amid crisis. Further, the ratio has a direct proportional relationship to the bank's resilience to crises. It has likewise an immediate impact on the banks' performance on finances by deciding its extension to risky yet gainful endeavors or regions (Sangmi & Nazir, 2010). Researchers contend that commercial banks that have more elevated amounts of capital post preferable financial outcomes over their partners who have less capital available to them. "There exists a positive link between a greater equity and financial performance among EU commercial banks" (Staikouras & Wood, 2003). Likewise, Abreu and Mendes (2001) demonstrated a positive influence of the equity level of a commercial bank concerning the performance of the bank's finances. Goddard et al. (2004) bolstered

the earlier conclusion on the “positive relationship between capital/asset ratio and bank’s earnings”.

Branch system and number of clients the bank has can enhance its turnover consequently the commercial bank’s liquidity which is likewise believed to have an effect on the financial performance of the bank. Researchers take note of that deficient liquidity of commercial banks is thought to be one of the real reasons why they come up short. It is however essential to note that when a commercial bank holds a considerable measure of fluid assets, then it is likely to incur an opportunity cost of receiving higher returns from investing with those assets. It is noted from the different reviews that amongst liquidity and the performance of commercial banks there is a positive correlation despite the fact that it is likewise noticed that amid times of unsteadiness in the business condition, commercial banks tend to build their money saves (property) as a method for alleviating themselves against risks. From this literature, the study utilized the market share and number of branches as a way of measuring the bank size and to conform to the tie system classification of central bank as a regulator.

Apart from other factors like ownership, the size of a bank also influences its customer profile. The logic is similar to the ownership argument, which clearly points out that the owners might influence the choice of the customer. Big banks particularly in tie one (1) may have a comparative advantage in lending to larger customers as they can exploit economies of scale in evaluating the hard information that ends to be available on such customers. Smaller banks particularly those in tie three (3) however, may not be able to lend to big companies because of size limitations. They are, for instance, more constrained by regulatory lending limits. Small banks may also have a comparative advantage in processing soft information on SMEs and small businesses may only be served on the basis of direct contact and soft information (Petersen & Rajan, 1994). Long-term relationships enable banks to collect information about borrowers’ capacity to repay, thus reducing the cost of providing credit.

The consolidation process in transition countries may therefore have led to a reduced focus of (larger) banks on SME financing. Again, to the extent that big banks may use technologies such as credit scoring and asset-based lending to get around the “soft information problem”, they may actually be well suited to lending to SMEs. Since such technologies benefit from economies of scale, larger and international banks may eventually even develop a comparative advantage in SME lending (De la Torre et al., 2008). For purposes of moderating this study loan portfolio and financial performance, the market share and number of branches has been taken to be the indicator of bank size and this information shall be extracted from the secondary sources.

2.3.6 Financial Performance of Commercial Banks

A bank’s performance in terms of its finances can be measured on how well it performs in profitability, liquidity and investment returns. In addition, other measures can tell how a firm is performing financially. These scales include the Net Interest Margin (NIM), Return on Assets (ROA) and the Return on Equity (ROE). The NIM is used to measure the gap between the bank’s generated interest income from loans and the paid-out interest amounts to lenders such as the deposit interests. This is done in relation to the asset amount (that earns interest) of the bank. This ratio is normally expressed as percentage of the banks’ loan revenues in a given period including other assets after the subtraction of the paid interest to the borrowed funds. This is further divided by the average assets amount where the revenues were based on that given time (the average earning assets). NIM variable refers to the net interest revenue that is divided by the total earning assets (Gul, Irshad, & Zaman, 2011).

NIM also is used to determine the gap of the received interest income from loans by the bank and the cost of interest and securities on the borrowed funds. This reflects the intermediation service cost of a bank coupled with its efficiency. Higher NIM shows that a bank gets high profits and that it also stable. Therefore, NIM forms one of the main measures of the bank performance. Higher NIM is also a likely indicator of the risky lending practices that a bank is involved in, which increase the probable losses by the bank (Khravish, 2011).

ROE refers to the amount of profit earned by a firm as contrasted to the total shareholder equity that was invested or that which is located on the balance sheet. The shareholders expect ROE as a return for their investment. A business with high ROE has a more capability of generating internal finances. Therefore, a high ROE indicates that the firm is better placed in generating profits.

Further, ROE is a ratio obtained from the Net Income after tax deductions divided by the whole equity capital amount (Kharwish, 2011). It is a representation of the earned revenues on the invested funds by the stockholders. Further, this ROE ratio points out to how the bank is utilizing the funds from the shareholders. Therefore, a conclusion can be made from these statements that a better ROE is reflection of an effective utilization of the shareholder capital by the management.

ROA is also a financial ratio that is defined as the banks' performance on finances. It is an income to total asset ratio (Khrwish, 2011). The ratio applies in determining the bank management's ability in generating revenues using the company assets that are at their disposal. Alternatively, the ratio indicates how the firm's resources are arranged to create revenues. Further, the ratio is an indication of the effectiveness of the company management in the process of generation of the net income from all the available institution resources (Khrwish, 2011). Higher ROA is a reflection of a high efficiency in the resource utilization by a firm (Wen, 2010).

Liquidity performance of commercial banks is one of the strongest indicator of financial performance besides profitability and efficiency. This is often measured by comparing its current assets to current liabilities. The current asset ratio which compares the amount of total current assets to total current liabilities indicate how liquid the bank is in terms of cash flow that enables it to meet all its current obligations of liabilities within a financial year. A bank can be profitable but not liquid hence the importance of analyzing this financial performance perspective. The ideal recommendable ratio should be 2:1 which means twice current assets holding to current liabilities is assure way of maintain liquidity. (Khrwish, 2011).

The Companies Act (1978); the Banking Act (1991); the CBK Act (1984); and the various prudential guidelines issued by the CBK are meant to control and guide the

banking industry in Kenya. In the year 1995, a liberation of the banking sector happened as the controls on the sector by the government was lifted. The Cabinet secretary of treasury through the CBK is now responsible for the formulation and implementation of fiscal policies and supporting liquidity, solvency and the proper running or operating of the financial systems. The information on the non-banking and banking institutions in Kenya is also provided by the CBK through its publications on the interest rates, guidelines and any other relevant publication.

The banks have met up under the Kenya Bankers Association (KBA), which fills in as a hall for the banks' interests and addresses issues influencing its individuals, out of this there are eleven commercial banks listed in Nairobi securities exchange (CBK, 2012). With a specific end goal to build their financial performance, commercial banks in Kenya have moved into lodging and consumer loaning (Ng'ang'a, 2012). This pattern has been going on among the majority of the commercial banks as they look to enhance their loan portfolios and limit the risks that happen subsequently to the unsecured loans that are well known in the country. For instance, only around 5% of the banking framework's credit went to Real home (RE) more than 1997-2008 with a declining pattern, around 6% to private families (PH) with an expanding pattern and 2% to consumer durables (CD) with an expanding pattern. Building and construction (B&C) took a normal 5 % (Kilonzo, 2008).

Union Bank PLC (2006-2009) study by Hall (2010) focused on the assessment of the efficacy of the management of risk of credit on the banks' performance. Further, it can be employed in determining the impact credit has on the performance of the bank's finances. It also investigates the link between the income interest and the bad debt of the Union Bank. ROE and ROA in this study was used to show an overall performance of finances and their efficiency.

In Kenya Vision 2030 under the economic pillar, financial services sector is one of the foundations upon which achievement of its goals is based. It is a key instrument in the facilitation of the mobilization of investment funds that are required to implement the projects, which are identified for the vision. The main objective of the

vision is for the financial service industry to “have a vibrant and globally competitive financial sector driving high levels of savings and financing Kenya’s investment need”. Under this vision the flagship projects include: Consolidating the finance industry by enhancing capital base, increasing financial access through formalization of microfinance, deepening of capital markets by raising institutional capital & expanding bond & equity markets, enhanced leverage remittance and long-term capital flows.

The importance of the banking sector strong financial performance is critical as underlined in the vision, now it contributes 4 percent of the GDP and provides assets estimated at 40 percent of the GDP. The gross value added of financial service sector to the GDP since 2004 to 2009 was 44,343 million to 129,910 million.

Vision 2030 seeks to achieve amongst other objectives on the banking sector the following; to increase savings and investment rates from the current 17% to 30% of the GDP; bank deposits to rise from 44% to 80% of the GDP; to reduce the cost of the borrowed capital; decreases the share of population without access to finance from 85% to below 70%. This study through assessing the different loan portfolio components and how this influences the financial performance of different banks offer a better understanding of the banking sector and assist in meeting part of the vision 2030 objectives.

The financial capabilities of commercial banks are measured through their profitability. Various profitability measures are used to measure the performance of Organisations, which includes NIM, ROE and ROA as mentioned earlier. Through the financial statements and other books of accounts, these ratios can be computed for a number of years to determine the progression of the business banks included. When the outcome of a firm’s operation is measured in terms money then it is known as financial measures of performance (Business Directory, 2011). They are derived from the firm’s balance sheet, accounts or its profit and loss statement. Financial measures are also referred to as objective measures because they can be individually measured and verified (Kellen, 2003). The NIM measures the gap between the interest income the bank receives on loans and securities and interest cost of its

borrowed funds. It shows the efficiency of the bank and its cost of intermediation services. The NIM is one of the essential factors used in determining a bank's profitability. The higher it is, the higher the profit recorded by the bank and the more stable the bank is. However, a higher net interest margin could mean the bank engages riskier lending practices associated with substantial loan loss provisions (Khravish, 2011). The Return on Equity (ROE) is a financial ratio of how much profit a company garnered to the total amount of shareholder equity invested or found in the balance sheet. ROE is what the shareholders look for as a return for their investment.

2.4 Empirical Review

This section shows an audit on the exact writing identified with the determinants of bank financial performance. Ewert, Schenk and Szczesny (2000) observationally distinguished components that can clarify the financial performance of bank loaning exercises. They additionally investigate the personal bank's evaluation of a loan's risk. The study utilizes the common informational collection of a research extend on credit management in Germany that was started by the Center for Financial Studies (CFS) in Frankfurt. The example utilized included an arbitrarily picked traverse the seven years in the vicinity of 1992 and 1998. The outline embraced included a description of the different components through observation of the information gathered through secondary means.

The above study utilized the outcomes to test hypothetical theories on the effect of specific parameters on credit terms and trouble probabilities. The study found that appraisals go about as an imperative calculate on the bank's loaning arrangement. Evaluations showing higher risks prompted higher interest rate premiums. The discoveries on collateralization are less evident and do not completely bolster any of speculations that are progressed to depict the part of guarantee and agreements in credit contracts. Haas, Ferreira and Taci (2009) investigated how bank qualities and the institutional environment affects the composition of banks' loan portfolios in transition nations.

Ayele (2012) researched the factors influencing the performance of finances in privatized financial institutions in Ethiopia by utilizing seven private commercial banks' board information from the year 2002 to 2011. This research applied the approaches of quantitative research. The secondary financial data was interpreted by the help of various direct regressions models for the performance of the three banks' finance measures; Return on Asset (ROA), Net Interest Margin (NIM) and Return on Equity (ROE). Settled impact regression model was connected to research the effect of capital sufficiency, quality of the asset, administrative productivity, liquidity, bank size, and genuine GDP development rate on real bank financial performance measures i.e., return on assets, return on equity and net interest margin independently. Next to this, the study utilized essential information and examination to inquire about the director's view points on the issues that guide the performance of private commercial monetary institutions finances.

Consequently, management groups of private commercial bank ought to endeavor to fortify the distinguished critical variables and government bodies ought to observe the unfriendly impact of strict polices forced upon current private banks and for the new contestant. Amare (2012) scrutinized the effect of industry, bank-particular, and macroeconomic determinants of Ethiopian commercial banking industry financial performance from the period 2000 – 2011. The study was a survey of the whole industry and utilized both essential and secondary information. By utilizing OLS estimation strategy to gauge the impacts of inward and outer determinants on financial performance regarding normal, return on asset and net interest edge. The estimation that comes about demonstrates that financial performance endures in some degree, infers that the marker of the presence of generally genuinely aggressive market in Ethiopian commercial banking environment, particularly competition between private banks. As to logical factors, all bank particular determinants, exempting its size, cost management and credit risk, influence bank financial performance fundamentally and decidedly in the expected way. Nevertheless, bank estimate, cost management and credit risk influence the commercial banks financial performance altogether and contrarily.

Dirnhofer (2012) inspected the impact of Real estate Backed Securities on the behavior of the Top 375 US banks amid the financial risks. The study utilized a correlational study outline and only secondary information was utilized. Regression investigation was completed to inspect the relationship between the factors and bank performance. Banks that were exceptionally required in the securitization procedure of Real domain loans had a tendency to perform ineffectively amid the financial turmoil. Moreover, Real bequest Backed Securities did influence bank performance as well as had a positive correlation on the quantity of hindered loans.

These discoveries were strongly identified with Real estate, Real estate banks; delineate how Real estate Backed Securities and Real estate loans strongly affected the performance of banks amid the financial turmoil of 2007. Swarnapali (2014) explored the effect of bank-particular elements, which incorporate the working costs, credit risk, liquidity risk, capital quality and the bank size of Sri Lankan Licensed Commercial Banks (LCBs) on performance of their finances that is gauged by ROA and ROE. The study embraced a survey outline and only secondary information was utilized.

The above study gathered information from the yearly reports of the LCBs for the period under investigation. Regression investigation was done on the information to decide the impact of the independent determinant regarding the performance of the finances of monetary institutions. Owing to the evidence of the discoveries, the performance of Sri Lankan banks is only affected by the costs of working and the measure of the bank. The regression coefficients that reflect on the size of the banks are measurably critical on the performance of the bank at 5% in both models while working costs is huge at 1% level in ROA (model 1) and at 5% level in ROE. On the other hand, the evaluated coefficients of the regression of the credit ratio, ratio on liquidity and capital quality proportion in the models are not factually noteworthy and make no contribution to the performance of LCBs in Sri Lanka.

A study titled Effective credit Risk Management on Bank Survival done by Njanike (2013) highlighted the reasons from which the banking risks originate. Also, the study looks at the extent to which the disappointments can oversee the risk of credit

that necessitated the fall of Zimbabwe's banks in 2003/2004. The study made an effective application of the questionnaire strategies. Twelve brief questions directed to bankers or the senior supervisors in banks were issued with an aim of creating ease of noting them. The first two questions were based on the profile of the respondent. The succeeding two questions shaped the authoritative from which the research could get the information about the financial institutions. The rest of the questions modeled the basic body from which the targeted information by the study could be obtained. It took more than six months to gather the data, which culminated in June 2009. Survey was the method picked by the researcher for the study. Meetings and questionnaires were the overall tools in this study. These results that a lack of ability in overseeing the credit risk led to significant risks in the finance sector.

Hosna, Manzura, and Juanjuan (2009) also conducted a research that found a link between a bank's financial behavior and its management of credit risk. The title of the research was Credit Risk management and Financial Performance in Commercial Banks in Sweden. This study made efforts to recognize financial performance is affected by the management of risk associated with credit in the banks. The main objective of the study was to show the level of the credit risk management effect on the financial performance on Sweden's selected four banks for the study. ROE was utilized to mark the financial performance. NPLR and CAR were deployed to indicate the pointers of management of risk associated with credit. Techniques adopted in the study were those of the quantitative research method. These techniques were chosen as a way of satisfying the main motivation of the study. A regression model was also utilized in the study in carrying out experimental investigations. The information used was garnered from the yearly reports of the sampled banks in the study from 2007-2008. Also, the capital efficiency and risk management reports for the years 2007 and 2008 were used. The study found out that there is an effect caused by the management of credit risk on the financial performance of the selected four banks. Further, it was discovered that NPLR had a larger effect than CAR on the financial performance (ROE).

The Impact of Risk Management on Non-Performing Loans and financial performance of Banking Sector of Pakistan is another research study title that was

conducted in Pakistan by Haneef et al. (2012). The main study objective was to explore the effect of management of risk on the NPLs and the financial performance of Pakistan's banking sector. ROA was taken as a financial performance in this study and NPLR as a pointer of the risk management. The study collected secondary data from 5 banks. The findings indicated that there is no viable tool to help in the management of credit risk in Pakistan's banking sector. Also, a conclusion was drawn from the study that stated the expansions of NPLs due to the lack of the risk management tools. This worsens the financial performance of the banks in Pakistan.

Berger, Imbierowicz, and Rauch (2014) undertook a research study to analyze the functions of corporate governance in bank defaults during financial crisis in the United States by examining the ownership and management structures of default and no default commercial banks in the US. The study used an exploratory research design and secondary data. The study comprised two samples: eighty five defaulting firms and 256 no default banks. The findings were analyzed and presented using descriptive statistics and regression analysis and findings indicate high stakes in the bank coerce the lower-level management to take high risks and that risk of default rises when incentives of executive management and mid-level management are in harmony. The study notes that financial variables like earnings, capital, and non-performing loans, are indicative of financial risk. This study assists explain the rationale behind insider loans.

Berrios (2013) undertook a research study to examine the correlation between credit worthiness in banks, financial performance and the contribution of unhealthy lending to lower bank liquidity and profitability. The study employed a descriptive research design and a population of 793 public companies in the United States. 80 banks were sampled but only 40 were studied; the forty banks had complete sought data set, period covered 2005-2009. Data analysis was done via ordinary least squares regression analysis, descriptive statistics and analysis of covariance. The study finds an adverse association between risky lending and net interest margin, insider holdings and the length of tenure of the chief executive officer and the bank performance.

Nyamutowa and Masunda (2013) also undertook a study to test the hypothesis that the collapse of banking institutions is primarily driven by inadequate credit risk practices in the context of Zimbabwe. The qualitative survey study used a population of 14 commercial banks and obtained primary data using questionnaires. The researcher observes that the deteriorating economy, forced Zimbabwe to adopt lending guidelines that focused credit to predominantly agriculture sector to increase economic output through cheap funds obtainable at negative real interest rates. The study determined that the depository financial institutions in Zimbabwe place significant emphasis and weight on collateral. The outcome being increasing the bank exposure because of poor asset quality. Foreign depository financial institutions operating in Zimbabwe were determined to have better credit worthiness practices than the native ones.

A research titled Credit Risk and Commercial Banks' Performance in Nigeria: A Panel Model Approach found a slight deviation in their study (Kolapo, Ayeni, & Oke, 2012). The study conducted an experiment on the quantitative nature of the credit risk on the performance of Nigerian depository financial institutions in a period span of eleven years that is 2000-2010. Traditional benefit theory was utilized in the definition of the benefit, which was measured by ROA. ROA was used as a ratio function of the NPL to loan and advances (NPL/LA), Total loan and Advances to Total store ratio (LA/TD) and the ratio of loan losses provision to characterized loans (LLP/CL) as a measure of credit risk. The study sampled 5 commercial firms in the banking industry. The study method used was cross-sectional that enabled a look into information from this banks for a long period. The determinants of the benefit function were examined by the board model. The findings reflected the impact of the credit risk on the performance of the tested by the ROA as cross-sectional invariant, which means that the effect can be compared across the Nigerian banks. Nevertheless, the degree at which the personal banks are influenced was not captured in this research.

A study by Ogboi and Unuafe (2013) looked at the impact of credit risk management and capital adequacy on the financial performance of commercial banks in Nigeria and found a positive effect of credit risk management on banks financial

performance. It utilized factors of loan misfortune provisions (LLP), loans and advances (LA), non-performing loans (NPL), capital amplenness (CA) and return on asset (ROA).

Muteti (2014) also in a research study sought to determine whether there exists a relation between financial risk management and the performance of Kenyan depository financial institutions using a descriptive research design. The Populace comprised 43 commercial banks in Kenya and covered 2009-2013 periods. The study used secondary data and also used regression analysis in the data analysis. The study determined that foreign exchange risk, credit risk, liquidity risk, interest rate risk impacted the performance of Kenyan depository financial institutions negatively while the bank deposits, bank size and capital management risk influenced it positively. The researcher underscores the need to control credit risk by commercial banks.

Further a research by the title *The Impact of Effective Credit Risk Management on Commercial Banks Liquidity Performance: Case of Egypt* was done by Megeid (2013). The study looked into the credit risk management effect on the enhancing the liquidity performance. The study was limited to the Egyptian commercial banks. The study had a sample size of 8 commercial banks in Egypt. The data was obtained from the period of financial proclamations investigations for the period of 2004-2010. Based on this data, the study demonstrated there is a link between credit risk management and performance of the banks' finances.

Locally, Ndururi (2013) assessed the impacts of Real domain on the commercial bank's performance in Kenya. The study looked to answer the accompanying particular targets; to decide impacts of Real home saving money on financial performance in commercial banks, to set up impacts of Real estate diversification on financial performance of commercial banks. This study embraced elucidating research plan for it depicts an exact profile of situations. The objective populace for this study was 44 commercial banks in Kenya. The study utilized essential information and secondary information. The 28 inferential examinations, which included regression and correlations, was done to build up impacts of Real home

financing on financial performance in commercial banks in Kenya. The study concluded that commercial banks in Kenya accentuations on Real bequest financing to enhance bank performance.

The study concluded that real estate financing is influenced by market and financial factors which includes increased investment and improve financial performance of the firm, improvement of risk management, attraction of more customers, promotion of innovations, market penetration, diversification of investment and encountering competitions in the market lowering of interest on treasury bond, Kenya financial laws require bank to have less cash in reserve and high interest from Real estate, creating of wealth and improving savings. The study therefore determined that there is a beneficial relation between commercial bank performance with effects of Real estate financing which core are saving, diversification of portfolio, increase income and economic growth.

Macharia (2013) assessed the impacts of worldwide financial emergency on the performance of the commercial banks on finances in the Real estate finance offering in Kenya. This research additionally looked to decide the impact of interest rates, inflation, capital stream and remote trade rates of the performance on finances of the commercial banks that provide Real estate loans in Kenya. This study was helped out through an elucidating research plan. The objective population of this study along these lines was 330. The sample size of this study was along these lines of 99 respondents.

The study gathered essential information, which was to a great extent quantitative, utilizing semi-structured questionnaire. In addition, the researcher utilized both spellbinding and inferential measurements to investigate the information. In expressive measurements, the analyst utilized frequencies, rates, mean and standard deviation. In inferential insights, the researcher utilized multivariate regression investigation to decide the relation between factors (needy and free). This study set up that capital stream accordingly of worldwide financial emergency was affecting the commercial banks offering Real estate finance in Kenya took after by remote trade rates, inflation and interest rates. This study prescribes that the financial

institutions ought to stay away from abnormal state of debts. This study likewise suggests that financial institutions ought to guarantee that their interest rates are very much managed to maintain a strategic distance from poor financial performance.

Ogilo (2013) conducted a research in Kenya that examined the management of credit risk effect on the performance of the finances of the banks in Kenya. Consequently, the study made efforts to determine the link between credit risk's management guiding factors based on the application of CAMEL pointers and the performance of finances in the commercial banks of Kenya.

The independent CAMEL factors were adopted in the study. The components include the capital efficiency, quality of assets, management productivity and liquidity and the dependent variable of the performance of finances (ROE). Encouraged by the publication of the CBK on the banking sector, the research study adopted a casual configuration. Different regression examinations were applied in the study to investigate the information on the publication and presented the findings in form of tables and equations. A significant effect between the CAMEL components and the performance of the finances of the banks was determined therefore, the study concluded that the model of CAMEL is applicable as an intermediary in the management of the credit risk.

The review of this study variables and the empirical literature provides deep information on the variables that was used in this study and at the same time helped in structuring the study design, the data collection instruments and to come up with the model for data analysis amongst other key performance indicators of the variables used in the study.

2.5 Critique of Existing Literature Relevant to the Study

This literature review highlights a limited view of how loan portfolio affects the commercial banks' performance financially and also fails to show other contributing factors to financial performance for example how the shift to internet banking, agency banking, mobile banking which have all led to considerably increased profits. The presence of market distortions in the banking sector and other policy frame

works have all not been discussed in this literature. There is still a lack of agreement here on the ideal portfolio to be adopted to ensure efficiency in terms of financial performance of commercial banks. The studies further have not addressed on how each loan in a portfolio has contributed to the non-performing loans that ultimately affects financial performance of commercial banks.

According to Karim et al. (2013) in their studies on how bad loans affects portfolio of the commercial banks' performance financially noted that the future lending capacity of commercial banks will be the first one to be affected and then there is expected to be limited access to financial credit by the wide customers of the various banks, this is a true reflection on the ground since most banks with huge non-performing loans do struggle to lend and their financial performance is highly compromised, however the study did not focus on which part of the loan portfolio contributes more to this non- performing loans. Likewise, a similar study conducted by Aballey (2009) on a number of financial institutions found out that bad loans greatly hinder and affect adversely the financial condition of the creditor, the observation was that most of the financial institutions do not have due diligence on personal borrowers and end up with huge unsecured loans which contributes to high level of default. The study should have also focused on the wide commercial banks, detailing the value of this personal commercial loans advances and the percentage of contribution to financial performance or to non-performing loans.

Hoque and Hossan (2008) tested the correlation between loan defaults and high interest rates policy using three regression models, their findings was that “ defaults were highly correlated with interest rates” while this might be true on their findings, the situation might not cut across all the commercial banks since some banks had a perceived low interest rates as per the central bank yearly survey but experienced loan defaults, furthermore a study should be conducted to analyse the interest rates that are charged in the different loan portfolio components and how this impacts the financial performance of individual commercial banks. Along the same lines on non-performing loans. Asari et al. (2011) on the study of non-performing loans and interest rates concluded that they affect each other positively; the high interest rate contributes to high default rate which in turn contributes highly to NPLs, whose

levels are likely to influence the performance of depository financial institutions. As much as this link might be true, banks in Kenya have been reporting higher financial performance besides complaining of higher default rate from some sections of their loan portfolio, it was important for this study to focus on the default rate from each particular component of the loan portfolio and link this to financial performance of specific banks. Kaplin et al. (2009), empirically supported the acidity between the rate volatility and loan defaults, by conducting a study in the US firms for a period of twenty six years (1982-2008), the study was conducted in a different setting and environment which might be contrary to the present time and situation hence the need to carry out this study.

According to Lipunga (2014) commercial banks use Real estate loans as a strategy to diversify the lending and lower the risk, this is because such loans are fully covered by the Real estate property unlike the other forms of loans that can be unsecured, this line of thought can be supported by a study which should be conducted on the entire commercial banks to ascertain the rate of contribution of Real estate financing to default rates and how this influences the performance of depository financial institutions. Kimeu's (2008) study that focused on Real estate loans supported the idea that Real estate loans lower the ratio of NPLs to total loan portfolio of the bank however the study did not indicate how this contributes directly to financial performance of commercial banks. On similar grounds, Kluger and Miller (1990) noted that the size of the Real estate loans, maturity of the loan, interest rate and method of paying off the loan can affect Real estate loans considerably, while this might be the case the situation is in contrast with the practical reality that most commercial banks prefer to lend to Real estate developers because of security and huge amount of money involved, as it is the case with other previous literature, this study has not linked the performance of Real estate loans in a loan portfolio to the financial performance of commercial banks.

Longenecker, Petty, Palich and Hoy (2013) focused more on advances to SMEs and found out that primary providers of debt capital to SMEs are commercial banks, the study was more on the growth of this sector and how its financed but not so much on the value of advances from commercial banks, the contribution to loan portfolio and the rate of default given that a large number of SMEs go under yearly with bank loans. It is also evident that banks prefer SMEs with security and most banks claims to have set aside part of their loan portfolio to support and finance the SMEs growth. According to Verrecchia (2001) on information asymmetry where it was noted that managers of business do have more information on their business than the lenders particularly financial institutions, this is a true reflection on the loans advanced to the SMEs, commercial banks do normally lend with utmost care and with due diligence by the use of CAMPARI formula where by banks assess the trait and ability of the borrower, profit margin, purpose of the loan, amount required, repayment period and the insurance which is actually the security, besides all this some SMEs go under with huge loans from commercial banks.

Brownbridge (2008) in the study on insider loans established that the sole largest contributor to the bad loans in many fallen banks was insider loans, this might be true to the situation and the environment at the time of the study, some studies need to be conducted in the present Kenyan situation to reflect on the true situation, this is because of the collapse of some banks like chase bank, continental bank, Trade bank which auditors attributed to unethical lending and citing insider lending as the key factor that contributed to bad loans hence poor financial position.

Overall, there is no consensus in literature that only loan portfolio can strengthen or weaken the commercial banks' performance financially in emerging economies like Kenya which need restructuring to ensure a balance between how banks perform and customers welfare to reduce exploitation hidden in loan contracts forms that are inhumane thus in the long run affecting bank performance in terms of finances as customers with time might lose confidence in the banking sector and thus financial performance may deteriorate to the worst.

2.6 Research Gaps

A large portion of the related literary works assessed cover distinctive reviews made both in creating and built up nations' banking enterprises. Regardless of the possibility that very quantities of studies have researched on the determinants of Non-performing loans, a large portion of these reviews have been done in created nations with few being done in creating nations like Kenya. Along these lines, with regards to the information of the researcher, there is as yet predetermined number of written works in Kenyan banking industry that have concentrated on loan portfolio. The researcher brings up the past reviews done, what the concentration was, the discoveries and crevices that the momentum study looks to fill as per this study objectives.

Uphadhaya (2011) did a study on the influence of Segmentation in the Kenyan Banking Sector on financial performance and elucidates research configuration that embraced focused portions inside the banking industry and noted that, commercial banks performed better when they were fragmented as they centered and conveyed better services to customers. The context was on how specialization of banks prompted expanded performance of commercial banks. The study tried to set up the impact of particular loans and how they influence the commercial banks' performance financially, this study did not fragment the borrowers particularly on personal loans in order to assess its critical influence, however it critically took a look at those components of the loan portfolio perceived to be high risk and whose default rate is probably going to be high.

The audit on the various studies done on real estate loans has assessed the different speculations that the study depends on. These speculations are critical in clarifying to what impact portfolio affects the commercial banks' performance financially. It is however critical to note that the hypotheses have not concentrated on the impacts of Real estate financing on the performance of depository financial institutions. The audit has additionally exhibited different reviews already done on the determinants of the financial performance of commercial banks and the impact of Real estate financing on the financial performance of commercial banks.

From the survey, unmistakably not very many late reviews have particularly centred on how Real estate financing influences the portfolio and how it affects the commercial banks' performance financially. From the observational survey, obviously various reviews have been done on impacts of loan portfolio in various nations focusing on non-performing loans. Regardless of the fact that, the elements for non-performing loans are as yet far from being obviously true among various researchers which is because of situational variables like nation level elements, bank level components and the condition of lawful and administrative structure of the nation.

Makori and Memba (2015) on the components affecting performance of Real estate financing among commercial banks in Kisii town, Kenya, utilized spellbinding research configuration to give ebb and flow status of the variables impacting banks Real estate loaning. The study discovered that commercial banks can have the capacity to recognize different risks confronted in loaning along these lines can decide interest rates, the study likewise settled that business status of customers influences Real estate financing among banks. This study concentrated on different sorts of loans and subsequently discover the general impact on the commercial banks' performance financially. The study likewise concentrated on overall banking industry and presents a better picture on Real estate financing as a component of loan portfolio consequently liable to give a superior point of view on financial performance of the whole industry.

Asantey and Tengey (2014) did an observational study on the impact of bad loans on banks' loaning potential and financial performance. For the SMEs loaning in Ghana, A quantitative research method was utilized in this study, where the study's theory was tried utilizing inferential factual strategies and devices, it was discovered that bad loans make a noteworthy negative impact on banks' loaning potential. The performance of depository financial institutions was assessed as far as return on venture is concerned. This study was confined locally and aimed at discovering the influence of loan portfolio on commercial banks' performance financially whereby the loans advanced to SME was part of independent variables of the whole loan portfolio. Additionally the financial performance here was measured utilizing more

markers like return on assets, liquidity proportions (current asset ratio) and return on equity.

Wangai (2013) focused on the impact of NPLs on financial performance of microfinance banks (MFBs) in Kenya, descriptive research design was adopted and it was proved that credit risk heavily affects financial performance of MFBs. The study was conducted on microfinance banks in Nakuru town targeting 66 credit managers, primary data were employed in data collection. While the study focused mainly on credit risk, the current study targeted commercial banks registered and operating in Kenya and secondary data from audited financial statements were used in data collection. The study also focused on how particular types of loans influence financial performance of commercial banks with the default rate (non performing element) of that loan being a key performance indicator.

Osoro (2013) studied effect of financial restructuring on Kenyan depository financial institutions; quantitative research methodology was used to enable the computation of relevant financial ratios. The study concluded that financial restructuring and the performance of commercial Banks in Kenya relate positively. In this study only eleven (11) listed commercial banks were taken into consideration and the study focused on the effects of capital structure on financial performance. Loan portfolio might influence the financing structure or decision of a financial institution hence the importance of linking the two studies and find convergence area where both can complement each other. The current study focuses on all the 42 fully operational commercial banks in Kenya and how loans structure affects their performance financially.

Ongore and Kusa (2013), on the determinants of financial performance of commercial Banks in Kenya, utilized cross-sectional clear plan. The study discovered that Bank particular elements altogether influence the performance of Kenyan depository financial institutions which for the most part, is driven by board and management decisions, this Study was open and centered around different elements other than loans impact on financial performance. The present study

concentrated on the pretended by various sorts of loans on financial performance of commercial banks in Kenya.

Bhattarai (2015) focused on the effect of Credit Risk on the Performance of Nepalese Commercial Banks, the study adopted descriptive and causal comparative research design. The findings was that the interest rate affects loan performance and by extension performance of commercial banks. Seventy-seven (77) commercial banks in Nepal were put in considerations. The current study endeavored to establish the influence of loan portfolio on the performance of commercial banks in terms of finances. Furthermore the current study focused on the local situation and targeted particular components of the loan portfolio that can lead into further studies to analyze on why some particular loans have high default rate than others and how such affects the financial monetary institutions.

Bizuayehu (2014) studied the effect of Credit Risk on banks' performance on finances in Ethiopia, this study utilized board information to examine the factors under consideration, The principle discoveries was that credit risk had a noteworthy reverse effect on banks financial performance, capital ampleness additionally had same effect on financial performance of commercial banks. The study was done in Ethiopia and concentrated only on eight commercial banks. The study additionally considered other industry particular and full-scale economic components that influence performance of depository financial institutions. The present study concentrated particularly on the selected portion of loan portfolio influences on financial performance of commercial banks. An evaluation of all banks was done when contrasted with studying a couple of them and the local scenario was taken into account without considering other non-banking factors or environment.

Babajide (2015), on the study entitled "Credit Management and Bank Performance of Listed Banks in Nigeria" utilized both graphic measurements and econometric examination utilizing the board direct regression system. The real finding was that NPLs and bad debt have a noteworthy negative impact on the performance of banks in Nigeria. The recommendation was that there is need for Banks to institute sound lending framework, adequate credit procedures besides efficient monitoring systems

in lending. This study focused on listed commercial banks in Nigeria, the researcher also focused on the role of lending trends and practices and their effect on financial performance. The current study focused on loan portfolio and gave a recommendation on how prudent lending in right proportions was to promote stability and good financial performance in the financial industry in Kenya.

2.7 Summary of Literature Reviewed

The literature concerning the influence of loan portfolio on financial performance of commercial banks was limited and typically paints a pessimistic picture of the potential of commercial banks performance in financial terms. In summary, most insights on commercial banks financial performance stem from the empirical analysis of over time. In addition, the influence of loan portfolio on commercial banks financial performance was examined without considering factors such as quality of management extensively of the commercial banks, external environment factors like economy, political factors, social factors and even technological factors, change in interest rates in the context of a particular bank's choices was most often be based on non-representative samples and case studies.

As particular factors was taken into consideration it must be clear that in the emerging economies like Kenya which was investigated, other factors which affects the financial performance of commercial banks may not be exhausted since the researcher's particular focus was analyzing the potential of a selected loan portfolio factors that contribute to the commercial bank's financial performance. This research was important because the financial performance also mean economic stability and job creation concerns besides the achievement of the Millennium Development Goals (World Bank, 2014) and to Kenya's Vision 2030.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the methodology used in this research. It describes steps, procedures and approaches that were followed in executing this study. It highlights the research philosophy that was adopted, the research design, targeted population of study, size of the sample, data collection methods that were employed and an overview of the data analysis techniques that were used. This section also provided an operationalization of the research variables, which informed the study.

3.2 Research Philosophy and Design

3.2.1 Research Philosophy

Two principle philosophies illuminate any sort of study. Ontology is the philosophical study of how to be, getting to be, presence, or reality, and also the fundamental classes of being and their relations (Creswell, 2003). Ontology helps in seeking answers to questions concerning what elements exist or can be said to exist, and to what extent the said elements can be assembled, related inside a chain of importance, and subdivided by likenesses and contrasts (Saunders, Lewis, & Thornhill, 2007).

Epistemology on the other hand is the department in the field of philosophy concerned with the nature and extent of learning and is likewise alluded to as theory of information. It questions what information is and how it can be gained, and the degree to which learning relevant to any given subject or substance can be obtained (Harvey, 2006).

Research philosophy identifies with the improvement of learning and nature of that information and contains essential assumptions about the path in which researchers see the world (Saunders et al., 2007). Two principle of epistemological research philosophies support research in sociologies exist. These are positivism and

phenomenology. Positivism depends on the assumption that the onlooker is autonomous of what is being watched and measurement ought to be through objective criterion as opposed to being surmised subjectively (Mugenda & Mugenda, 2003). It depends on real certainties, lack of bias, measurement and validity of results.

Positivists employ existing theory to form hypotheses, which are tried and proved, whole or part or refuted, thus informing and guiding further development of theory, which may be tested by further research. Phenomenology, which is the other epistemological philosophy, is perceptual as it looks at the qualities and phenomena that are subjective. It focuses on the immediate experience and starts from the known to the unknown (Mugenda, 2008; Nachmias & Nachmias, 2004; Saunders et al., 2007). This study was rooted in the positivism paradigm because it sought to establish objectively facts by empirically establishing relationships among variables.

It was along these postulations that formulation of hypotheses was undertaken and thus was largely quantitatively inclined. The hypotheses were tested and confirmed or refuted. Future research may be based on these results. The researcher was neutral and external as posited by proponents of positivism.

3.2.2 Research Design

This is the outline, scheme, or plan, which is applied in a bid to generate answers to the research problem (Creswell, 2003). This study fostered an explanatory cross-sectional design in its research and panel data. Cross-sectional studies are conducted once to represent a snap shot of a point in time. Cross-sectional survey was appropriate because it enabled collection of data from numerous organizations at each instance. Cross sectional surveys were critical, as it helped the analyst to determine whether significant associations among variables exist at some point in time (Cooper & Schindler, 2003; Nachmias & Nachmias, 2004).

This study sought to establish interrelationships between different loan portfolios and commercial bank's financial performance, with bank size posing as a moderator on loan portfolio and financial performance. Wangai, Bosire and Gathogo (2012) successfully used the same design for similar studies.

A panel data set is one that provides multitudinous observations for each distinctive being in a sample that was followed for a specified period of time. Empirical research methods were employed because empirical research help in joining research and practice, and also educational process needs to progress (Mugenda, 2008). One of the principal benefits of the mentioned procedure is that it empowers the researcher to control for unobserved heterogeneity. Secondly since panel data have both cross-sectional and time series dimensions, it provides the analyst with sufficient data points to reduce the likelihood of biasness in the parameter estimators.

3.3 Population and Target Population of the Study

Population can be dubbed as a gathering of people, occasions or questions having common noticeable qualities; it can likewise be alluded to as the total of all that conforms to a given specification (Mugenda & Mugenda, 2003). This study's population was all forty-two (42) commercial banks that were operational in Kenya in the period of the study.

Target population is made up of elements or personals in the population with the desired characteristics which the researcher wants to study or observe (Cooper & schindler, 2003). According to Toor (2009), a target population is a group of people that was of focus to the study. The study used a census survey where by the entire populace was the target population of the study that was all 42 registered, operational commercial banks in Kenya and whose data was available as per the CBK (2015) this will also serve as a unit of analysis.

3.4 Data Collection Instruments

The study relied on secondary data whereby the information was sourced from financial statements, ratios computed and other relevant documented information with clarity sort from relevant authorities. (Stiles & Taylor, 2001). Secondary data was collected using a structured data sheet. For effectiveness, a personal letter of introduction was drafted; a letter of authorization and permit was acquired from the Kenya Bankers Association and a letter of introduction from the Jomo Kenyatta University (See Appendix V). The unit of analysis was the 42 operational Kenyan Commercial Banks. The data covered the performance for the financial years 2006 through to 2015, which were available in the Credit Department and some published.

3.5 Data Collection Procedures

The researcher contacted and reserved an appointment with the key respondents who are the custodian of financial statements and other relevant documents for the same. The researcher used a secondary data sheet to fill in the particulars required and calculating the necessary ratios from the information required. Some of the secondary data was available online hence; the researcher extracted it as directed by the authorities of the targeted banks.

3.6 Pilot Testing

A pilot test is a version of the study that is conducted on a small scale, which aims to run a trial and prepare for the main study roll out (Beck, 2003). According to Kothari (2004), the study states that a pilot test is a duplicate of the main study that is meant for rehearsal purposes. Therefore, a pilot study is preliminary study done in a small scale with an aim of establishing the feasibility, cost and time that will be spent on the study. Further, it helps to identify the adverse effects and the size effects of statistical variability, which attempt to foresee the proper size of the sample. Further, through the pilot study, the research is able to improve the research design. Thornhill and Lewis (2009) have presented that pilot testing is helpful in the refining of the secondary data sheet so that the information collected will be valid

and reliable. Lancaster, Dodd, and Williamson (2010) asserted that for a high precision pilot studies, percentages between 1% and 10% should be composed of the pilot testing size. This study pilot tested 10% of the target population size, which represented (4.2) 4 commercial banks.

3.6.1 Reliability of the Research Instruments

According to Sorooshian (2014), reliability is the extent to which the research instruments produce dependable results or when data trials are re-conducted. The test-retest approach was used to examine the data reliability collected using the same instrument. Cronbach's Alpha coefficient was used to compute reliability tests. Alpha coefficient of 0.7 and above was interpreted to mean satisfactory internal consistency reliability (Bovens, 2005).

3.6.2 Validity of the Research Instruments

Validity is characterized as the exactness, honesty and weightiness of impacts that depend on the information got from the utilization of a device or a scale for every variable on the study (Hyndman & McMahon, 2010). Validity is how much outcomes acquired from the investigation of the information really speak to the phenomenon under the study. It is along these lines needs to do with how precisely the information got in the study speaks to the factors of the study. On the off chance that such information is a genuine reflection of the factors, then derivations in view of such information was precise and important (Hardy & Ballis, 2013). Both construct validity and content validity were used in adapting the measures for the variables in this study. The structured data sheet were pre-tested to ascertain its relevance to the study in production of accurate results. Content validity was done by testing and retesting the data sheet which covered all the four main areas of the study. Construct validity on the other hand was attained through the operationalization of the study variables which reflect the theoretical assumptions that underpin the conceptual framework of this study.

3.7 Data Processing

Data processing involves editing, coding, classification, tabulation and graphical presentation. The data collected in research required certain amount of editing for making it unambiguous and clear as well as for maintaining consistency and accuracy (Hall, 2010) the researcher performed central editing of data that is, data was brought together for editing. According to Fernandes (2009), coding refers to assigning data measured and collected to a limited number of mutually exclusive but exhaustive categories or classes. The researcher performed this as a basic step in processing. To create such mutually exclusive but exhaustive classes, it is necessary to do classification of data by arranging data in groups or classes on the basis of common characteristics (Fernandes, 2009). In this study, data was collected based on the following specific objectives: To determine the influence of Personal loans on the commercial banks' financial performance in Kenya, To determine the influence of Real estate loans on commercial banks' financial performance in Kenya, To find out the influence of loans advanced to small and micro enterprises (SME) on commercial banks' financial performance in Kenya, To establish the influence of insider loans on commercial banks' financial performance in Kenya, To determine the moderating influence of bank size between the loan portfolio and commercial banks' financial performance in Kenya.

3.8 Data Analysis

The data analysis was done using quantitative techniques. The data collected was first summarized, categorized and coded. Regression models were used to test the hypotheses. However, before hypotheses testing diagnostic tests were carried out including multicollinearity test, homogeneity test, autocorrelation test and test for normality to confirm whether the data conforms to regression assumptions and is therefore appropriate for regression analysis. Correlation analysis was also carried out using Pearson's Product Moment Correlation (r) analysis and coefficient of determination Pearson's product-moment correlation coefficient (R^2) was used to examine the extent of correlation between the variables of study and to show the

strength of the linear relationships between the variables in the regression. Coefficient of determination was used to check on the goodness of fit of the models.

Hypotheses H₁, H₂, H₃ and H₄ were examined using multiple regression analysis, which is a form of multivariate regression analysis. Hypothesis H₅ was tested using Baron and Kenny's steps for testing moderating effect. First there is need to predict the outcome of dependent variable from the predictor variables (Block 1). Generally, the model should be significant. Secondly the independent variable and the moderator variable are centered and an interaction term is created by multiplying the independent variable and the moderator. The interaction term, independent variable and moderator are then entered into a simultaneous regression model (Block 2) to check whether the moderator variable alters the strength of the causal relationship. The R² change should be significant as well as the interaction term (P<0.05). Moderation occurs if both are significant. Supposing the moderator and predictor insignificant with the interaction term added, then complete moderation has occurred. If they are insignificant, then moderation has occurred, however the main effect are also expected to be significant. The analytical models, as well as the objectives and hypotheses, are summarized in the Table attached as appendix 4.

3.8.1 Statistical Model

Regression Model, was adopted to predict the dependent variable (financial performance). The independent variable loan portfolio comprised of four variables namely Personal loans, Real estate loans, SMEs loans and Insider loans. Bank size was the moderating variable.

The following are the regression models used:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \text{ .model without moderator effect .Model 1}$$

$$Y = \beta_0 + (\beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4) Z + \varepsilon \text{ .model with moderator effect Model 2.}$$

Y is the financial performance measured in terms of Return on Equity, Return on Assets and Current ratio. The study performed regression analysis considering every

measure of financial performance separately. This means that there were three sub-models for each category where one category was without the moderating variable while the other had the moderating variable introduced. The first category sub-models took the form: $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$, while the second category sub-models took the form $Y = \beta_0 + (\beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4) Z + \epsilon$. Where a (β_0) = constant; $\beta_1, \beta_2, \beta_3, \beta_4$ represented regression coefficients, X_1 , = Personal Loans; X_2 =Real estate loans; X_3 = SME loans X_4 =Insider loans; Z = banks size (S) and ϵ was the error term.

Test of significance for R and R^2 using the F-statistic. The correlation coefficient (R) gave an indication of the direction and strength of the correlation between the variables. Coefficient of determination (R^2) value showed the percentage of variance of the dependant variable (FP) accounted for by the independent variables. R^2 assessed how much of dependent variable variation is due to influence of independent variable. F-test assessed the overall significance of the model. Beta (β) determined the contribution of each predictor variable to the significance of the model. T-test determined the significance of individual variables. P value < 0.05 checked on statistical significance.

3.8.2 Data Presentation

The study findings were presented using frequency tables and other relevant charts. A thematic approach was used to organize all the data presented. With five major themes all drawn from the research variables; personal loans, real estate loans, SME loans, Insider loans and bank size respectively. Data was then organized and coded to fit the research context and then it was segmented and then each segment was labelled with a relevant code accompanied by a phrase that suggested how it was related to particular data segments, which were informed by different research study variables (Denzin, 1997). The results were presented in statistical tables to enable easy understanding with the tables ensuring orderly arrangement of data. With some tables having simple frequencies while others had cumulative frequencies, relative frequencies, and cumulative relative frequencies as demonstrated in chapter four.

3.9 Measurement of Research Variables

The study adopted financial performance as the dependent variable. Personal loans, real estate loans, SME loans and insider loans were the independent variables respectively; bank size was taken as the moderating variable. This section provides details of how each of the study variable(s) was measured and operationalized as shown in 3.1.

Table 3.1: Measurement of the Study Variables

Variable	Indicators	Measurement Scale	Supporting Literature
Personal loan	-Loan deposit ratio, Value of loans advanced,% on total loan portfolio, % of loan default (Non-performing loans)	<ul style="list-style-type: none"> Secondary data from the bank records that includes loan books 	Karim et al., (2010), Chelagat, (2012), Awunyo-Vitor, (2013), Asari, et al, (2011), Kaplin, et al., (2009), Patnaik and Shah (2004)
Real estate loans	-Maturity period, Value of security, Loan size,% of loan default (Non-performing loans)	<ul style="list-style-type: none"> Secondary data from the bank records particularly the loan books 	Kluger & Miller, (1990), Dymski, (2007), Kimeu, (2008)
Loans advanced to SMEs	Loan deposit ratio, Value of loans advanced, % of loan portfolio, % of loan default (Nonperforming loans)	<ul style="list-style-type: none"> Secondary data from the bank records 	Kithinji, (2010), Neuberger, (2001)
Insider loans	Loan deposit ratio, Value of loans advanced, % on total loan portfolio , % of loan default (Non-performing loans)	<ul style="list-style-type: none"> Secondary data from the bank records 	Mukalazi, (1999), Brownbridge, (1998), Fernandez, Jorge and Saurina, (2000).
Bank Size	Market share, Number of branches	<ul style="list-style-type: none"> Secondary data from the bank records 	CBK reports Smirlock,(1985) Goddard et al., (2004)
Return on assets	Net profit margin / Total assets	<ul style="list-style-type: none"> Secondary data from the banks records 	Gull et al., (2011), Khrawish, (2011) CBK reports
Return on equity	Net profit after tax/Ordinary share capital plus Reserves	<ul style="list-style-type: none"> Secondary data from the banks records 	Kharwish, (2011) CBK reports
Current ratio	Current assets/ Current liabilities	<ul style="list-style-type: none"> Secondary data from the banks records 	The Banking Act, (1991) CBK reports

Source: Author (2018)

3.10 Diagnostic Tests

3.10.1 Panel Normality Test

Statistical procedures require that the assumption of normality is proven. This is to assist in checking for the kurtosis and skewness coefficients to prove the normality of the test by conducting graphical tests. Such tests assist in determining whether the data follows an asymmetrical distribution or a normal distribution. The results may not paint a true picture of the bond among the variables in cases where normality wasn't achieved. The normality in this study was tested using the Shapiro-Wilk Test. If the probability values of this test are greater than 0.05, the data is normal otherwise the data significantly deviates from a normal distribution. If the P-value records a value larger than 0.05 then it points to a normal distribution (Non – significant result). If the P-value records a value lesser than 0.05 (significant result) then the assumption of normality is violated. This is prevalent in huge samples (Pallant, 2005)-

In this study the data result of the normality test showed that the P-value of most of the variables was less than 0.05. Therefore, this model violated the normal distribution assumption of linear regression. By using a large sample size, no adverse deviations from the assumed normality of the error terms detected.

3.10.2 Multicollinearity Test

In this test, correlation coefficients and Variance inflation factors (VIFs) were employed. This is an instance whereby a high extent of association exists between independent variables (Kothari, 2004). By distorting the coefficients of regression, it makes them unstable hence it becomes an obstacle when interpreting therefore significance tests become invalid (Cooper & Schindler, 2006). VIF is the measure of inflation of standard errors of slopes because of multicollinearity. The coefficients were compared with 0.8 or VIF of 5 and presence of multi-collinearity concluded for those variables with at least 0.8 coefficients or VIF of at least 5 (Gujarati, 2003).

The results showed that all the VIF values were below 5, meaning that the collinearity was not harmful. If there is correlation between two variables, then all the VIFS will be equal to one (Hansen et al. 2013)-. Also, if VIF for one of the variables is equal to or greater than five, then there exists multicollinearity. Since all the VIFs are less than 5, then the multicollinearity is nonexistent. VIF is the reciprocal of tolerance. Hence, if tolerance of one of the variables is equal to or less than 0.2, then there exists collinearity. Again, since all the tolerance results were greater than 0.2, then the assumption of non-existence of multicollinearity was not violated.

3.10.3 Breusch-Pagan/Cook-Weisberg Test for Heteroscedasticity

This was also tested using Breusch-Pagan / Cook-Weisberg method and conclusions inferred. (Gujarati, 2003) lack of constant error variance is known as heteroscedasticity. This is a dilemma that causes biasness of the standard errors resulting in invalid test statistics and confidence intervals making the results misleading. The choice of Breusch-Pagan / Cook-Weisberg test was necessitated as it is applicable to error terms that are non-normal and nonlinear models. (Berry & Feldman 1985). This chi square test takes the shape of nR^2 where n is the sample size and R^2 is the unadjusted coefficient of determination of the auxiliary regression (a regression equation between lagged squared error terms and predictor variables) with degrees of freedom (df) and m the number of independent variables. Unless it is in dire situations, heteroscedasticity should not be a nuisance as it doesn't result to biased parameter estimates (Gujarati, 2003).

For this study a regression model with the response variable as ROA, yielded a chi-square value of 275.15 with moderation and 754.61 without moderation, ROE responded with chi-square value of 283.68 with moderation and without moderation 417.60, CR responded with chi-square of 425.93 with moderation and 398.42 without moderation, all at p-value 0.000 . Since both values of chi-square were at 5% significance level it nullified the hypotheses signifying the absence of heteroscedasticity. The Breusch-Pagan / Cook-Weisberg test for heteroscedasticity

was used to acquire significant tests by making the standard errors unbiased yielding valid test-statistics.

3.10.4 Panel Unit Root Test (Stationarity)

Stationarity is the circumstance whereby the variance, mean and autocorrelation of data structure remain static with time (Gujarati, 2003). This test is mandated as it ensures regression results are not spurious such that there is a high coefficient of determination between variables (due to non-stationarity) even if there is no cause and effect relationship (Wooldridge, 2012). In addition, non-stationarity yields invalid significance tests by distorting the t-ratios (Gujarati, 2003). The ADF (augmented Dickey Fuller) unit root test was used with the null hypothesis ($b=k-1=0$) of non-stationarity. If the statistic of the test is largely negative (since it is a one sided test) than the critical 5% level of significance value, the null is rejected to imply stationarity (Gujarati, 2003). The DF test statistic is $b/(b)$ (Gujarati, 2003), where $b=k-1$ from the model $Y_t = a+kY_{t-1} + u_t$ with a as the drift, Y_t the variable value at time t , Y_{t-1} the variable lagged value and u_t the error term.

The result of the panel unit root test for all variables is presented in Table 4.19. Given the test results, it indicated the stationarity of the variables and significant at 5% since the ρ -values associated with the respective test statistics were all less than 0.05.

3.10.5 Hausman Specification Test

In the analysis of panel data that includes a time-varying covariate, a preliminary Hausman (1978) test is commonly used to decide whether subsequent inference is made using the random effects model or the fixed effects model. If the Hausman pretest rejects the null hypothesis of no correlation between the random effect and time-varying covariate then the fixed effects model is chosen for subsequent inference, otherwise the random effects model is chosen. This preliminary model selection procedure has been widely used in econometrics (Baltagi, 2005; Wooldridge, 2002). So, what is widely used in the analysis of panel data that includes a time-varying covariate is a two-stage procedure. In the first stage, the

Hausman pretest is used to decide whether subsequent inference is made using the random effects model or the fixed effects model (Ebbes et al., 2004; Jackowicz et al., 2013). The second stage is that the inference of interest is carried out assuming that the model chosen in the first stage had been given to us a priori, as the true model. Guggenberger (2010) considered this two-stage procedure when the inference of interest is a hypothesis test about the slope parameter. He provides both a local asymptotic analysis of the size of this test and a finite sample analysis (via simulations) of the probability of Type I error.

The Hausman specification test in this study was carried out at 5% level of significance to determine whether the fixed effect model (FEM) or random effect model (REM) was more applicable by considering the ignored variables that may or may not affect this model's predictors (Green, 2008). For this Chi square test, the null hypothesis was that the REM is preferred to fixed effect model and was to be rejected if the p-value is less than 5% to imply that fixed model is preferred (Green, 2008).

The main debate under fixed model is that if the unobserved variable remains the same, then any change in the response variable must be due to influences other than these fixed characteristics (Stock & Watson, 2003). Therefore, one can be able to hold constant or remove the effect of those time-invariant characteristics and examine the impact of the predictors on the response variable (Stock & Watson, 2003). Contrary to the random effects model, the variation across entities is assumed to be random and uncorrelated with the predictor variables in the model enabling time-invariant characteristics to be included in the model as predictors (Stock & Watson, 2003).

The equation for the fixed effects model therefore becomes

$$Y_{it} = \beta_1 X_{it} + a_i + u_{it}$$

Where

– a_i ($i=1 \dots n$) is the unknown intercept for each entity (n entity-specific intercepts).

- Y_{it} is the dependent variable where i = entity and t = time.
- X_{it} represents one independent variable
- β_1 is the coefficient
- u_{it} is the error term, whose covariance with $X \neq 0$

The random effects model is

$$Y_{it} = \beta X_{it} + a + u_{it} + e_{it}$$

β is the coefficient

a is the intercept

e_{it} within-entity error

u_{it} between-entity error, whose covariance with $X=0$.

While the fixed effect model restricts inferences only on the sample used, random effect model allows generalization beyond the sample to a larger population (Wooldridge, 2012). As shown in Tables 4.21 for ROA models with and without moderator, the alternative hypotheses were supported since the p values were lesser than 5% level of significance. This implies that fixed effects models were preferred. ROE and CR models with and without moderators, the nulls for both ROE and CR were rejected since the p values were greater than 5% level of significance implying that random effects models were preferred.

3.11 Chapter Summary

The chapter presents the methods that were used to implement the research effort. First, it pinpoints the choice of research design (positivism) on the need to test the study hypotheses. Explanatory cross-sectional survey and panel data as the research design that was adopted for the study is highlighted with the target population of the

study being defined as all commercial banks in operation as at the study period and this will also inform the unit of analysis.

Data analysis methods are also highlighted being correlation analysis and regression analysis, with regression models which were formulated by the researcher to test hypotheses being captured. Operationalization of the study variables being personal loans, real estate loans, SME loans, insider loans, bank size and financial performance are presented with specific indicators and measures for each of the variables and lastly the diagnostic tests for the study that are panel normality tests, multicollinearity tests, Breusch-Pagan/Cook-Weisberg test, Panel unit Root tests and Hausman specification tests are also highlighted.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presented the research findings and a discussion of the same in view of the objectives of the study as guided by the techniques mentioned in chapter three. It starts with a discussion on pilot results, Tier wise categorical summary statistics, diagnostic tests performed to validate the use of the techniques as appropriate for inferential statistics coupled with their interpretations.

4.2 Data Availability

Out of the 42 commercial banks 39 commercial banks were however studied as data for three banks (Chase bank, Imperial bank and Giro Commercial bank ltd) were not available. By the time of collecting data Chase bank and Imperial bank were under receivership and Giro Commercial bank was in the process of being acquired by I&M bank. Mayfair bank was granted its operating license on 20 June 2017 hence does not qualify as the population of the study since the period of study is 2006-2015.

4.3 Pilot Study Results

4.3.1 Construct Validity Results

In order to check the relevance and validity the questionnaires were tested. According to Cooper and Schindler (2003), the researcher is guided by the factor analysis exploratory tool to decide whether the investigated variables could explain the dependent variables. In this study, validity was focused on determining if the results recorded explained financial performance.

To do this, the role of the constructs being measured in the dependent variable were explained by factors developed from factor analysis. The identical tactic that has been largely accepted for factor analysis is majorly used as evidenced in the use by studies like Lee and Teo (2005). Cooper and Schindler (2006), on acceptable factors

of loading have a value of 0.40 and above and is thought acceptable therefore has been employed by other analysts including Sangmi (2010); Asantey (2014) who studied monetary organizations. Factor analysis results are indicated in the Appendix. The results indicate that all the determinants related to Personal loans, SMEs loans, Real estate loans, Insider loans and financial performance had a factor loading of 0.4 and above and therefore, they were adopted in the analysis.

4.3.2 Content Validity Results

The content validity was determined by discussing the questionnaires with the supervisors, department lecturers and research experts. Also, content validity index was determined at 0.791. According to Hartzell (2013) validity coefficient of minimum 0.70 is deemed acceptable. This implies the data collection instrument passed validity test.

4.3.3 Reliability Analysis Results

Instrument reliability is its ability to output stable and consistent measures. A reliable measurement will regularly assign the same result to the same occurrence. According to Creswell (2008), reliability refers to stability or consistency of measurements; that is, would the same results be obtained supposing the test was administered repeatedly. The Cronbach's alpha is the most common reliability coefficient, which applies the average inter - item correlation to estimate the internal consistency. This coefficient normally spans from 0 to 1. The nearer the value is to 1, the larger the internal consistency of the items (variables) in the scale.

The questionnaire used for this study measured four constructs; personal loans, real estate loans, SMEs loans and insider loans. Personal loans variable was calculated using 4 key performance indicators having a Cronbach's alpha value of 0.724, the scale showed that internally it had high consistency. The second was real estate loans, which had 4 items in the scale, also revealed a high internal consistency with a Cronbach's alpha value of 0.817. The third construct SMEs loans had 4 items in the scale also revealed a high internal consistency with a Cronbach alpha value of 0.716.

Finally, insider loans which was measured using 4 items had a Cronbach's alpha value was 0.726. The findings are documented in table 4.1.

Table 4.1: Cronbach's Alpha's Reliability Test

Item	Cronbach's alpha	No. of items	Comments
Personal Loans	0.724	4	Accepted
Real estate loans	0.817	4	Accepted
SMEs loans	0.716	4	Accepted
Insider loans	0.726	4	Accepted

The reliability of the constructs was acceptable based on the rule of George and Mallery (2003) who ascertain that Cronbach's alpha value that is greater than 0.9 is considered excellent; value of 0.8 is deemed very good and 0.7 is rated as good. In social sciences researches, a reliability value of 0.7 or more is considered acceptable. All the four items personal loans, real estate loans, SMEs loans and insider loans achieved the threshold of acceptance in social science researches (Hair et. al, 2006). Thus, reliability of the data collection sheet was affirmed and accepted altogether.

4.4 Overall Analysis Results on Bank Tier wise Study Variables

The table below provides an overview of the study variables when banks have been classified in their respective tiers.

Table 4.2: Categorical Summary Statistics

	Variable	Obs	Mean	Std. dev	Min	Max
Tier 1	Size	60	15.195	0.786	13.534	17.097
	Personal loans	60	0.252	0.110	0.006	0.843
	Real Estate Loans	60	0.351	0.125	0.095	0.719
	SMEs Loans	60	0.156	0.098	0.002	0.448
	Insider loans	60	0.239	0.102	0.051	0.602
	ROA	60	0.236	0.081	0.108	0.594
	ROE	60	2.425	5.754	0.113	45.011
	CR	60	0.855	0.879	0.023	3.945
Tier 2	Size	130	15.938	1.673	11.897	20.012
	Personal loans	130	0.196	0.146	-0.032	0.884
	Real Estate Loans	130	0.329	0.186	0.018	0.771
	SMEs Loans	130	0.303	0.149	0.017	0.865
	Insider loans	130	0.177	0.128	-0.032	0.371
	ROA	130	0.254	0.064	0.111	0.51
	ROE	130	3.161	14.448	-24.140	76.149
	CR	130	7.755	12.198	-9.154	39.372
Tier 3	Size	190	16.481	1.490	13.466	19.663
	Personal loans	190	0.199	0.149	0.001	0.687
	Real Estate Loans	190	0.318	0.178	0.007	0.712
	SMEs Loans	190	0.288	0.174	0.037	0.958
	Insider loans	190	0.196	0.136	0.001	0.420
	ROA	190	0.277	0.102	0.106	0.819
	ROE	190	2.309	62.044	0.050	582.059
	CR	190	12.916	53.525	0.095	507.728

Key: ROA = Return on Assets; ROE = Return on Equity; CR = Current Ratio

As shown in Table 4.2, for all the Tier 1 commercial banks in Kenya, the average ROA during this period was 23.60% with the lowest value of 0.1080, highest value of 59.40 and a standard deviation of 0.081. This meant that on average banks had a positive ROA even though their majority are to the right of the distribution like the ROA shows, 24.25% was the mean ROE with a standard deviation of 5.754 and a low and high of 0.113 and 45.011 respectively. This showed that banks were generally profitable to reward the assets investment. Standard deviations showed the fluctuation of returns of ROE being higher than that of the ROA. The average CR

during this period was 8.55% with the lowest value of 0.023, highest value of 3.945 and a standard deviation of 0.879. The average personal loans over the period were 25.2%, minimum of 0.006 and maximum of 0.843 with standard deviation of 0.110. The average SME loans over the period were 15.6%, minimum of 0.002 and maximum of 0.448 with the standard deviation of 0.098. The average insider loans over the period were 23.9%, minimum of 0.051 and maximum of 0.602 with standard deviation of 0.102. The average real estate loans over the period were 35.1%, minimum of 0.095 and maximum of 0.719 with standard deviation of 0.125.

Bank size as proxied by a natural logarithm of a market share and number of branches increased from Kshs 13.534 Billion to Kshs 17.097 Billion with an average size of kshs 15.195 Billion and standard deviation of 0.786. The result is also consistent with previous Kenyan studies by Adusei (2011); Kyereboa - Coleman and Biekpe (2007). The size of a bank affects its financial performance in many ways. Large banks can exploit economies of scale and scope and thus being more efficient compared to small banks. In addition, small banks may have less power than large banks; hence they find it difficult to compete with large banks particularly in highly competitive banking markets. On the other hand, as banks become larger, they might suffer from inefficiencies, leading to inferior financial performance.

The above findings disagreed with those of Amin et al., (2014) who after examining the simultaneous effect of the financial default risk on financial performance of commercial banks found out that such increased loans can affect ROA and ROE as a measure of financial performance among commercial banks. Equally Al-Tamimi et al. (2015) found out that credit risk is real among commercial banks as both ROA and ROE were affected thus a significant negative relationship on banks' performance thus more loans means higher chances of non- performance hence poor bank performance.

At Tier 2, the average ROE over the period was 31.61%, with the lowest value being -24.140, highest value of 76.149 with a standard deviation of 14.448. This shows that though on average banks had a huge positive return on equity, the majority of firms ROE are to the right of the distribution just like ROA. The mean ROA was 25.4%

with a standard deviation of 6.4 and a low and high of 11.10 and 5.10 respectively. This showed that banks were generally highly profitable towards their investment in assets. Standard deviations showed the fluctuation of returns of ROE being marginally higher than that of the ROA. These results are echoed by Mwangi *et al.* (2014) who concluded that banks at Tier 2 have a higher ROE than ROA with a higher variability in ROE too. The average CR during this period was 7.55% with the lowest value of -9.154, highest value of 39.372 and a standard deviation of 12.198. The average personal loans over the period were 19.6%, minimum of -0.0320 and maximum of 0.884 with the standard deviation of 0.146. The average SME loans over the period were 30.30%, minimum of 0.017 and maximum of 0.865 and the standard deviation is 0.149. The average insider loans over the period were 17.7%, minimum of -0.032 and maximum of 0.371 and standard deviation of 0.128. The average real estate loans over the period were 32.9%, minimum of 0.018 and maximum of 0.771. Bank size as proxied by a natural logarithm of market share and number of branches increased from Kshs 11.897 Billion to Kshs 20.012 Billion with an average size of kshs 15.938 Billion with a standard deviation of 1.673.

At Tier 3, the average ROE for this period was 23.09%, with the lowest value being 0.050, highest value being 582.059 with a standard deviation of 62.044. This shows that though on average banks had a huge positive return on equity, the majority of firms ROE are to the right of the distribution just like ROA. The mean ROA was 27.7% with a standard deviation of 0.102 and a low and high of 0.1060 and 0.8190 respectively. This shows that banks were generally highly profitable towards their investment in assets. Standard deviations showed the fluctuation of returns of ROE being marginally higher than that of the ROA. These results are supported by Mwangi *et al.* (2014) who concluded that banks at Tier 3 have a higher ROE than ROA with a higher variability in ROE too. The average personal loans over the period were 19.9%, minimum of 0.0001 and maximum of 0.687 and standard deviation of 0.149. The average CR during this period was 12.916% with the lowest value of 0.095, highest value of 507.728 and a standard deviation of 53.525.

The average real estate loans were 31.8% with a minimum of 0.007 and maximum of 0.712 and standard deviation of 0.178. The average SME loans over the period were 28.8%, minimum of 0.037 and maximum of 0.958 and standard deviation of 0.174. The average insider loans over the period were 19.6%, minimum of 0.001 and maximum of 0.420 and the standard deviation of 0.136. The findings were not in agreement by those of Kithinji (2010) who found out that non-performing loans affect total asset in Kenyan banks from 2004 to 2008. Besides the above, it was determined that a higher percentage of the profits of commercial banks are not influenced by the amount of credit and non-performing loans as averagely the gains of the banking industry increased in the period 2004 to 2008. Bank size as proxied by a natural logarithm of market share and number of branches increased from Kshs 13.466 Billion in 2013 to Kshs 19.663 Billion in 2017 with an average size of kshs 16.481 Billion with standard deviation of 1.490.

Table 4.3: Tier-wise ROA of Commercial Banks in Kenya

	Mean	Std. dev	Min	Max
Tier 1	0.236	0.081	0.108	0.594
Tier 2	0.254	.064	0.111	0.51
Tier 3	0.277	.102	0.106	0.819

Table 4.3 shows the ROA summary statistics for each of the 3 bank tiers in Kenya as analyzed by the study. The results indicate that commercial banks in Tier 1 recorded the lowest mean ROA values of 0.236 during the period under study, followed by banks in tier 2 with the highest mean in tier 3 banks. This indicates that banks in tier 1 had the lowest return on their assets as a result of funds generated from their loan portfolio unlike banks in the other two tiers. This finding is in agreement with the central bank report which found that the loaning activities in tier 1 banks was in decline in favour of tier 2 and tier 3 commercial banks who have embraced mass retail banking and aggressive marketing (CBK, 2015).

Table 4.4: Tier-wise ROE of Commercial Banks in Kenya

	Mean	Std. dev	Min	Max
Tier 1	2.425	5.754	0.113	45.011
Tier 2	3.161	14.448	-24.140	76.149
Tier 3	2.309	62.044	.050	582.059

Table 4.4 shows the ROE summary statistics for each of the 3 bank tiers in Kenya as analyzed by the study. The results indicate that commercial banks in Tier 3 recorded the lowest mean ROE values of 2.309 during the period under study; however, in tier 2 and 1 the ROE was 3.161 and 2.425 respectively. This effectively means that besides the tier 3 banks having the highest ROA, these banks have the lowest ability to generate revenue profits that is attributed to shareholders investments. This explains why tier 3 banks have an increasing loan portfolio with higher defaults and non-performing loans to the disadvantage of the investors in general (CBK, 2015). The recent collapse of commercial banks in tie 3 due to heavy insider loaning and other bad loaning practices leaving investors in cold is a clear manifestation of the above findings.

Table 4.5: Tier -wise CR of Commercial Banks in Kenya

	Mean	Std. dev	Min	Max	Skewness	Kurtosis
Tier 1	0.855	0.879	.023	3.945	0.0323	3.011
Tier 2	7.755	12.198	-9.154	39.372	0.0321	3.022
Tier 3	12.916	53.525	.095	507.728	0.0300	3.011

Table 4.5 shows the CR summary statistics for each of the 3 bank tiers in Kenya as analyzed by the study. The results indicate that commercial banks in Tier 1 recorded the lowest mean CR values of 0.855, followed by tier 2 and tier 3 respectively. This means that the liquidity position of these banks in tier 1 was slightly affected by the

low profitability hence low ROA. This also explains the close connection between liquidity and profitability status of any firm. The findings is in agreement with the central bank report which noted that the commercial banks in tier 3 were experiencing higher liquidity due to higher loans turnover hence the willingness to loan more including unsecured loans (CBK, 2015). This aspect of more liquidity and more unsecured loans has contributed to more loan defaults in the long run hence putting more of this bank at risk and warned of unsafe lending.

Table 4.6: Overall Summary statistics

Variable	Obs	Mean	STD Dev	Min	Max
Personal loans	390	.2049875	.1434094	-.0319557	.884347
Real estate loans	390	.328899	.1757202	.0065157	.7713953
SMEs loans	390	.272786	.1612007	.0015336	.9576718
Insider loans	390	.1953631	.12981	-.0319557	.6023261
Size	390	16.09252	1.519306	11.89698	20.01234
ROA	390	2.354012	5.388844	.0044328	56.92827
CR	390	2.354012	38.2176	-9.153805	507.7275
ROE	390	9.098484	44.37049	-24.13954	582.0595

Key: ROA = Return on Assets; ROE = Return on Equity; CR = Current Ratio

Table 4.6 findings indicate that indeed the variables of loan portfolio under the study influence the financial performance of commercial banks as explained by the individual means. These findings concur with those of Swarnapali (2014) who after exploring the effect of bank-particular elements in loans on financial performance found out that they influence the ROA and ROE of those particular banks. The study embraced a survey outline and only secondary information was utilized. Dirnhofer (2012) found out that the effect of loan portfolio on bank performance was real hence need to ensure that loan portfolio is closely monitored if good performance is to be achieved among banks.

4.5 Diagnostic Tests Results

These are tests performed on the data variables to ensure conformity with the requirements of the multiple regression technique used and to ensure that the results are more robust and valid.

4.5.1 Panel Data Normality Test

Normality is considered the most basic assumption in data analysis as it takes into account the benchmark for statistical methodologies. It alludes to the data distribution's shape for an individual metric variable. It is examined using statistical and graphical tests. The simplest method for testing for normality is to visually inspect the histogram comparing the observed data values with distribution approximating the distribution.

Table 4.7: Panel Data Normality Test

Shapiro-Wilk test for normal data					
Variable	Obs	W	V	Z	Prob>z
Personal Loans	390	0.93248	18.171	6.892	0.0000
Real estate loans	390	0.97919	5.600	4.095	0.0000
SMEs loans	390	0.92909	19.083	7.008	0.0000
Insider Loans	390	0.93417	17.716	6.832	0.0000
ROE	390	0.19751	215.974	12.775	0.0000
Current ratio (CR)	390	0.18835	218.437	12.802	0.0000
ROA	390	0.38558	165.357	12.140	0.0000
Size	390	0.97751	6.054	4.280	0.0000

Key: ROA = Return on Assets; ROE = Return on Equity; CR = Current Ratio

If P-value is more than 0.05, (a non –significant result) it shows that there is normal distribution. A significant result (P- value of less than 0.05) indicates the violation of the assumption of normality, which is common in large samples by the distribution (Pallant, 2005). In this study, the normality test data result showed that the P-value of

most of the variables was less than 0.05. Therefore, this model violated the normal distribution assumption of linear regression. Through the use of a large sample size, there were no serious deviations from the assumed normality of the error terms detected.

Normality test has been used by Galvao, Montes-Rojas, Sosa-Escudero, and Wang (2013) as a standard test performed before any estimation of the study model or even after the estimation of the model. The normality test usually involves testing all the components in the error as shown in table 4.7 for each model. In case this approach is used in small samples since the problem arises in the construction of a histogram. Its visual portrayal is disfigured to a point it can be classified as useless. The main statistical tests for normality which are available in most of the statistical programs are Shapiro-Wilk test (Hair et al., 2006)

Mendes and Pala (2003) in their study found out that SW test is very appropriate when using panel data. Wooldrige (2002) argued that SW test can also be good in practical purposes as it achieves sufficient power when using small sample sizes except for t distribution. Nornadiah and Wah (2010) noted that a small value of test statistic of SW test tends to the rejection of normality. Meanwhile, Baltagi (2005) evaluated the performance of normality tests under different kind of non-normal distribution and different sample sizes and concluded that SW test is the best performing normality test as it can reject the null hypothesis at smallest sample size data as compared to KS test, AD test and Cramer-von Mises test (CVM).

4.5.2 Multicollinearity Test

Multi collinearity is the undesirable situation where the correlation among the independent variables is strong. It increases the standard errors of the coefficients using collinearity statistics to get variance inflation factor (VIF) and tolerance. In the testing for multicollinearity, VIF was tested using Stata version 14. Multicollinearity increases the standard errors of the coefficients and thus makes some variables statistically insignificant while they should otherwise be significant (Waters, 2004). The amount of variance in an independent variable that the other independent variable neglects to explain is known as Tolerance. VIF measures how much

variance the regression coefficient is inflated by multicollinearity; thus, misleadingly inflates the standard errors. 0.10 is the lowest cutoff value for tolerance. To indicate lack of problems with the multicollinearity, its value should not exceed 0.10 and the VIF should be less than 10 (Newbert, 2008).

If no variables are correlated, then all the VIFs will be 1. If VIF for one of the variables is ≥ 5 , then there is collinearity associated with that variable. The results of the tests of multicollinearity between personal loans, SMEs loans, real estate loans and insider loans are presented in Table 4.8.

Table 4.8: Multi-collinearity Test

	Tolerance	VIF
Personal loans	.908	1.495
Real Estate loans	.836	2.142
SME loans	.785	2.107
Insider loans	.857	2.134

Dependent variable: Financial performance

As a rule of thumb, if any of the VIF is greater than 5 then there is a probability of a problem of multicollinearity which is harmful to the study (Newbert, 2008). The results showed that all the VIF values were below 5, meaning that the collinearity was not harmful. If no two variables are correlated, then all the VIFs will be equal to one (Hansen, 2013). Also, if VIF for one of the variables is equal to or greater than five, then there exists multicollinearity. Since all the VIFs are less than 5, then the assumption of non-existence of multicollinearity was not violated. VIF is the reciprocal of tolerance. Hence if tolerance of one of the variables is equal to or less than 0.2, then there exists collinearity. Again, since all the tolerance results were greater than 0.2, then the assumption of non-existence of multicollinearity was not violated.

4.5.3 Breusch-Pagan/Cook-Weisberg Test for Heteroscedasticity

The Breusch-Pagan test only checks for the linear form of heteroskedasticity i.e. it models the error variance as $\sigma^2_i = \sigma^2 h(z_i' \alpha)$ where z_i is a vector of independent variables. It tests $H_0: \alpha = 0$ versus $H_a: \alpha \neq 0$. When a regression model used the ROA as the response variable, the testing resulted in the value chi-square being 275.15 with a p-value of 0.000 with moderation as shown in Table 4.19 and without moderation, the chi-square value was 754.61 with a p-value of 0.000. Since the chi-square values for both cases were at 5% significance level, they signified absence of heteroscedasticity.

Also, when a regression model used the ROE as the response variable, the testing resulted in the value chi-square being 283.68 with a p-value of 0.000 with moderation as shown in Table 4.9 and without moderation, the chi-square value was 417.60 with a p-value of 0.000. Since the chi-square values for both cases were at 5% significance level they signified absence of heteroscedasticity. Lastly, when a regression model used the CR as the response variable, the testing resulted in the value chi-square being 425.93 with a p-value of 0.000 with moderation as shown in Table 4.9 and without moderation, the chi-square value was 398.42 with a p-value of 0.000. Since the chi-square values for both cases were at 5% significance level they signified absence of heteroscedasticity. Hence, the alternative hypotheses were rejected.

Table 4.9: Breusch-Pagan/Cook-Weisberg test for Heteroscedasticity Statistics

Response Variable	Model	Chi square	Prob > chi2
ROA	1	275.15	0.000
	2	754.61	0.000
ROE	3	283.68	0.000
	4	417.60	0.000
CR	5	425.93	0.000
	6	398.42	0.000

Key: ROA = Return on Assets; ROE = Return on Equity; CR = Current Ratio

Green and Heywood (2008) noted that when testing heteroscedasticity in a more general form, can adopt residual-based tests of heteroscedasticity tests which can test different categories of the independent variables (Rosopa, Schaffer, & Schroeder, 2013). The scholars further argue that the Breusch-Pagan test is appropriate as it is represented by an auxiliary regression equation that employees functions of the estimated residuals as dependent variable (Rosopa et al., 2013). The Breusch-Pagan test evaluates the null hypothesis that residual variances are unrelated to a set of independent variables against the alternative hypothesis that the residuals' variances are a parametric function of the independent variables. This test can be represented in an auxiliary regression form, where by the squared residuals of the proposed model are regressed on the predictors believed to be the cause of the heteroscedasticity.

4.5.4 Panel Unit Root Test

Panel unit test and stationery tests have become extremely popular and widely used over the last decade. Thus, it is important to collect evidence on the size and power of these tests with large-scale simulation studies in order to provide the academicians and analysts with some guidelines for tests to use. Most tests are formulated as an average of the individual statistics or their p -values. The Moon and Perron (2004) tests (henceforth MP tests) retain the spirit of the original panel unit root test of Levin, Lin, and Chu (2002), which estimates and tests the pooled first-order autoregressive parameter. As pointed out by Maddala and Wu (1999), the Levin et al. (2002) type tests have good power when autoregressive roots are identical over the cross sections.

As presented in Table 4.10, the null hypotheses, which stated that all panels contained unit roots for all variables, were rejected at 5% significance level due to the fact that the p -values were less than 5%. Hence it implied the stationarity of the variables (no unit roots) and hence the regression results were robust even without lags (at level).

Table 4.10: Panel Unit Root Test Statistics

Variable			Statistics	p-value
ROA	Inverse chi-squared (78)	P	379.9483	0.000
	Inverse normal	Z	-8.2566	0.000
	Inverse logit t (199)	L*	-14.7346	0.000
	Modified inv. chi-squared	Pm	24.1752	0.000
Personal loans	Inverse chi-squared (78)	P	236.8008	0.000
	Inverse normal	Z	-5.3564	0.000
	Inverse logit t (199)	L*	-7.8624	0.000
	Modified inv. chi-squared	Pm	12.7142	0.000
Real estate loans	Inverse chi-squared (78)	P	218.7769	0.000
	Inverse normal	Z	-5.4996	0.000
	Inverse logit t (194)	L*	-7.4140	0.000
	Modified inv. chi-squared	Pm	11.2712	0.000
Insider loans	Inverse chi-squared (78)	P	218.7325	0.000
	Inverse normal	Z	-4.3419	0.000
	Inverse logit t(194)	L*	-6.8998	0.000
	Modified inv. chi-squared	Pm	11.2676	0.000
CR	Inverse chi-squared (78)	P	491.8540	0.000
	Inverse normal	Z	-7.5474	0.000
	Inverse logit t(199)	L*	-18.3966	0.000
	Modified inv. chi-squared	Pm	33.1348	0.000
ROE	Inverse chi-squared (78)	P	670.5895	0.000
	Inverse normal	Z	-12.6287	0.000
	Inverse logit t(199)	L*	-26.9350	0.000
	Modified inv. chi-squared	Pm	47.4451	0.000
SMEs loans	Inverse chi-squared (78)	P	284.2985	0.000
	Inverse normal	Z	-6.5381	0.000
	Inverse logit t(194)	L*	-10.2833	0.000
	Modified inv. chi-squared	Pm	16.5171	0.000
Bank size	Inverse chi-squared(78)	P	190.0456	0.000
	Inverse normal	Z	-2.6166	0.000
	Inverse logit t(194)	L*	-4.6616	0.000
	Modified inv. chi-squared	Pm	8.9708	0.000

Key: ROA = Return on Assets; ROE = Return on Equity; CR = Current Ratio

The result of the unit root test panel for all variables is presented in Table 4.10. Given the test results, it indicated the stationarity and significance of the variables at 5% since the ρ -values associated with the respective test statistics were all less than 0.05.

The panel roots test has become a standard procedure in cross sectional studies and analysis. For panel data, panel unit root tests have been used by Levin and Lin (1992), Harris and Tzavalis (1999), Madala and Wu (1999), Choi (1999), Hadri (1999), and Levin, Lin and Chu (2002). Originally, Bharagava et al. (1982) proposed modified Durbin-Watson statistic based on fixed effect residuals and two other test statistics on differenced OLS residuals for random walk residuals in a dynamic model with fixed effects.

4.5.5 Hausman Specification

In deciding which model to employ, the FEM or REM, the choosing becomes very difficult. Judge et al. (1980) recommended a few suggestions that are relatable to the context of the data, and its environment apart from the correlation between error component and regressions. REM is more appropriate if the assumption is that it is uncorrelated but if it is correlated then FEM should be applied. One can use the Hausman (1978) specification test to choose the appropriate method that is fixed or random effects models. Nevertheless, econometricians seem to be united in saying that should the individuals be drawn randomly from a huge populace then the random effects model is more appropriate. The FEM becomes more appropriate in the case of focusing on specific sets of the firms.

An imperative test for model specifications is to decide whether the FEM or REM is more appropriate Maddala (2001). The null hypothesis is that the residuals in the random effects (REM) are uncorrelated with the regressions and that the model is correctly specified. Therefore, the coefficients that are estimated from the REM or FEM should be statistically equal. Otherwise, the REM estimation is dissonant. Supposing the rejection of the null hypothesis, then the unit's specific effects are correlated with the Regressors or the models are not correctly specified (Baltagi, 2005)

This is to say, the null hypothesis states that individual effects are not correlated with the other Regressors in the model. If correlated (H_0 is rejected) a random effects model produces biased estimators, so the fixed effects model is preferred (Hun Myoung park, 2005). To elaborate further, the driving force behind this test is that if U_i is uncorrelated with x_{it} then there is no difference between estimates from both fixed effects (within the group's estimator) or random effects (GLS estimators) models.

H_0 : u_i are not correlated with x_{it}

H_1 : u_i are correlated with x_{it}

In the null hypothesis, random effects would be efficient and consistent (i.e. H_0 is true), but under the other hypothesis, random effects would be irregular. By the nature of the FEM being consistent whether the null hypothesis is true or not means the Hausman test is significant hence we can accept the alternative hypothesis that there is a correlation between individual effects and x_{it} (Baltagi, 2005). The Hausman test tests the null hypothesis that the coefficients which are estimated by the efficient random effects estimator are the same as the ones estimated by the consistent fixed effects estimator. Therefore, this includes insignificant P-value, $\text{Prob} > \chi^2$ larger than 0.05, then it is more suitable to use random effects.

Table 4.11: Hausman Specification Test

a) ROA Model without Moderating Variable

.....Coefficients.....

	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	Fixed	Random	Difference	S.E
Personal loans	9.554883	20.86623	-11.31134	3.869578
Real estate loans	-20.44106	-9.785135	-10.65592	3.628362
SMEs loans	4.436733	16.7906	-12.35387	4.130067
Insider loans	-16.8746	-8.30058	-8.574029	4.197825

$$\text{chi2 (4)} = (b-B)'[(V_b-V_B)^{-1}](b-B)$$

$$= 16.22$$

$$\text{Prob}>\text{chi2} = 0.0027$$

b) ROA with moderating variable

....Coefficients....

	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	Fixed	Random	Difference	S.E
Personal loans	4.171753	18.17257	-14.00082	3.961332
Real estate loans	-25.09836	-12.56624	-12.53211	3.613806
SMEs loans	-.3840156	14.31824	-14.70226	4.144607
Insider loans	-21.96074	-11.07726	-10.88348	4.196821
Size	-.6173382	-.3538409	-.2634973	.143424

$$\text{chi2 (5)} = (b-B)'[(V_b-V_B)^{-1}](b-B)$$

$$= 20.27$$

$$\text{Prob}>\text{chi2} = 0.0011$$

The results in Table 4.11 (a) and 4.11 (b) shows that Fixed effect was suitable for ROA model without moderating variables and with moderating variable since P-value, Prob>chi2 was less than 0.05.

c) ROE without moderating variable

....Coefficients....

	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	Fixed	Random	Difference	S.E
Personal loans	-76.32983	-106.526	30.19616	51.74452
Real estate loans	-31.23831	-59.51363	28.27532	49.28545
SMEs loans	-8.736693	-44.68181	35.94512	54.46267
Insider loans	-92.77567	-108.9587	16.18303	55.5644

$$\text{chi2}(4) = (b-B)'[(V_b-V_B)^{-1}](b-B)$$

$$= 1.84$$

$$\text{Prob}>\text{chi2} = 0.7658$$

d) ROE with moderation

....Coefficients.....

	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	Fixed	Random	Difference	S.E
Personal loans	-50.76977	-97.43381	46.66404	54.26308
Real estate loans	-9.124641	-49.24626	40.12162	50.85575
SMEs loans	14.15308	-36.57401	50.72708	56.34025
Insider loans	-68.62581	-98.60585	29.98004	57.37453
Size	2.931231	1.55285	1.378382	1.659163

$$\text{chi2}(5) = (b-B)'[(V_b-V_B)^{-1}](b-B)$$

$$= 2.57$$

$$\text{Prob}>\text{chi2} = 0.7665$$

The results in Table 4.11 (c) and 4.11 (d) shows that random effect was suitable for ROE model without moderating variables and with moderating variable since P-value, Prob>chi2 was larger than 0.05.

e) CR without moderation

...Coefficients....

	(b)	(B)	(b-B)	$\sqrt{\text{diag}(V_b - V_B)}$
	Fixed	Random	Difference	S.E
Personal loans	-42.14169	-64.57223	22.43053	44.28437
Real estate loans	-26.91973	-49.1428	22.22307	42.17707
SMEs loans	13.53859	-16.84846	30.38704	46.61343
Insider loans	-87.59185	-101.1758	13.58392	47.55555

$$\text{chi2}(4) = (b-B)'[(V_b - V_B)^{-1}](b-B)$$

$$= 1.96$$

$$\text{Prob}>\text{chi2} = 0.7432$$

f) CR with moderation

...Coefficients...

	(b)	(B)	(b-B)	$\sqrt{\text{diag}(V_b - V_B)}$
	Fixed	Random	Difference	S.E
Personal loans	-42.14169	-56.10542	13.96372	43.80598
Real estate loans	-26.91973	-39.58163	12.6619	41.50351
SMEs loans	13.53859	-9.298313	22.8369	46.27472
Insider loans	-87.59185	-91.53501	3.943156	46.95797

$$\text{chi2}(4) = (b-B)'[(V_b - V_B)^{-1}](b-B) = 1.76$$

$$\text{Prob}>\text{chi2} = 0.6789$$

The results in Table 4.11 (e) and 4.11 (f) shows that random effect was suitable for CR model without moderating variables and with moderating variable since P-value, Prob>chi2 was larger than 0.05.

As shown in Tables 4.11 for ROA models with and without moderator, the alternative hypotheses were supported since the p values were lesser than the acceptable level of significance, which is, 5% implying that fixed effects models were preferred. ROE and CR models with and without moderators, the nulls for both ROE and CR were rejected since the p values were at the less than 5% level of significance implying that random effects models were preferred. This is in concurrence with Green (2008) recommendations.

The adoption above is consistent with the work of Frederick (2014) who used random effect models in a similar study on commercial banks profitability. However, in a similar study Molyneux and Thornton (1992) and Naceur (2003) used fixed model in their studies respectively on commercial banks financial performance.

4.6 Inferential Analysis

The researcher used correlation technique to test to what extent two variables relate to the Pearson correlation coefficient (r), which yields a statistic that spans from -1 to 1. Correlations highlight the magnitude of the association between the involved variables. The Pearson's Product Moment was employed in the calculation of inter correlations coefficients ®. According to Warokka and Gallato (2012), the correlation coefficient (r) ranging from 0.10 to 0.29 may be considered as an indication of a low degree of correlation, ranging from 0.30 to 0.49 can be regarded as a moderate degree of correlation, and ranging from 0.50 to 1.00 may be considered as an indication high degree of correlation.

The Correlation Coefficient was used to test whether there existed interdependency between the variables used in this study. It also assists in measuring the direction and strength of the correlation between two variables in a linear relationship, thus it forms the basis for the selection of variables for further statistical analysis such as

regression analysis. This was done by computation of Pearson Correlation Coefficient and coefficients.

4.6.1 Correlation Analysis for Variable Personal loans

Pearson Correlation Coefficient informs an analyst the direction and magnitude of the correlation between two variables. The larger the coefficient the stronger the relationship between the two variables. Mugenda and Mugenda (2003) have accentuated that in the computation of a Coefficient of Correlation it yields a statistic that spans from -1 to 1. They highlighted that if the correlation coefficient is negative (-), then a negative association between the two variables exists and vice versa. The Pearson's correlation coefficient was used to gauge the correlation between personal loans and financial performance whose results are tabled in 4.12.

Table 4.12: Correlation Analysis for Variable Personal loans

	ROA	ROE	CR	Personal loans
ROA	1.0000			
ROE (r)	-0.0676	1.0000		
P-Value	0.1825			
CR (r)	-0.0040	0.9834	1.0000	
P-Value	0.9366	0.0000	0.0000	
Personal loans (r)	0.2657	-0.2944	-0.2820	1.0000
P-Value	0.0000	0.0000	0.0000	0.0000

N = 390

Key: ROA = Return on Assets; ROE = Return on Equity; CR = Current Ratio

The results indicated that personal loans have a momentous positive relationship with ROA. This was indicated by Table 4.12, which show that the p-value was at $p = 0.000$ and this met the threshold since $p < 0.05$. The positive relationship was represented by correlation coefficient of 0.2657, the results also indicated that

personal loans have a significant inverse relationship with ROE. This was indicated by Table 4.12, which show that the p-value was at $p = 0.000$ and this met the threshold since $p < 0.05$.

The inverse relationship was represented by correlation coefficient of -0.2944 , and the number of respondents considered was 390. Lastly, the results indicated that personal loans have a significant inverse relationship with CR. This was indicated by Table 4.12, which show that the p-value was at $p = 0.000$ and this met the threshold since $p < 0.05$. The inverse relationship was represented by correlation coefficient of -0.2820 , and the number of respondents considered was 390. From the results the study concludes that personal loans influence financial performance, specifically, personal loans negatively influence ROE and CR measure of financial performance, and personal loans have a positive relationship with ROA. These findings are in line with Juma (2010) findings that personal unsecured loans influence financial performance of Banks in Kenya.

The above findings were in tandem with those of Kolapo et al. (2012) who found positive relationship between profitability and personal loans advances. Therefore, the scholar argued that it is expected that the coefficients of ROA to that loans, asset quality and loan loss provision is positive as indicated in the above results which was also reflected in his study. This study infers that to the financial institution that provides the credit facility, unsecured lending provides high revenues at seemingly high risk. The absence of a mature Credit Reference Bureau (CRB) makes it even a more lucrative business but of high risk, as the sins of the few unknown individual is spread over a larger number of borrowers.

Personal loans produce a higher return compared to other lending options which explains the rush to secure it before others join in the fray. Most of the unsecured loans fall under this category and most of the financial institutions under study have a large book loan with a high percentage of personal loans to total loans in the portfolio under study. The creditor does not enforce any restrictions on how the loans should be used. Certain persons view personal loans as a source of finance. Rather than use personal resources, it becomes convenient to pay immediate expenses using

personal loans as they are repaid in small monthly installments. This point explains why this type of loan is popular to both the lender and the borrower. The decision with regards to the benefit will be on whether or not the use justifies the personal loan.

4.6.2 Correlation Analysis for Variable Real Estate loans

Pearson Correlation Coefficient informs an analyst of the direction and magnitude of the relationship between two variables. The size of the coefficient is an indicator of the strength between the two variables. Mugenda and Mugenda (2003) have accentuated that the computation of a Correlation Coefficient yields a statistic that spans from -1 to 1. They highlighted that if the correlation coefficient is negative (-), it means that there is a negative relationship between the two variables and vice versa. Pearson correlation coefficient was used to gauge the relationship between real estate loans and financial performance as shown in table 4.13.

Table 4.13: Correlation Analysis for Variable Real Estate loans

	ROA	ROE	CR	Real estate loans
ROA	1.0000			
ROE (r)	-0.0676	1.0000		
P-Value	0.1825			
CR (r)	-0.0040	0.9834	1.0000	
P-Value	0.9366	0.0000	0.0000	
Real estate loans	-0.4771	0.2152	0.1858	1.0000
P-Value	0.0000	0.0000	0.0000	0.0000

Key: ROA = Return on Assets; ROE = Return on Equity; CR = Current Ratio

The results indicated that real estate loans have a significant inverse relationship with ROA. This was indicated by Table 4.13, which show that the p-value was at $p = 0.000$ and this met the threshold since $p < 0.05$. The inverse relationship was represented by correlation coefficient of -0.4771, and the number of respondents considered was 390. The results indicated that real estate loans have a significant positive relationship with ROE. This was indicated by Table 4.23, which show that

the p-value was at $p = 0.000$ and this met the threshold since $p < 0.05$. The positive relationship was represented by correlation coefficient of 0.2152, and the number of respondents considered was 390. The results indicated that real estate loans have a significant positive relationship with CR. This was indicated by Table 4.13, which show that the p-value was at $p = 0.000$ and this met the threshold since $p < 0.05$. The positive relationship was represented by correlation coefficient of 0.1858, and the number of respondents considered was 390.

The inverse correlation between ROA and Real estate loans, the positive correlation between Real estate loans and CR, real estate loans and ROE could be an after effect of the dynamic nature of the real estate market during the period under study. Davis and Zhu (as cited in Ojiambo, 2014) explained that the boom and bust (pro cyclical) nature of the real estate market plays a critical part in business cycles, fueling the boom and magnifying the recession. When the real estate prices fall, it exerts a downward pressure on the banking sectors as it increases the bad debt expenses for nonperforming real estate prices and deteriorates the balance sheet of borrowers using real estate as collateral.

The fluctuations of real estate prices can have a telling influence on the financial performance of commercial banks. An instantaneous drop in real estate prices may lead to commercial banks facing a financial crisis through several channels. Directly through the financial state of banks and debtors worsening, real estate loans rising in bad debt or obliquely through the drop in economic activities and financial transactions. In most situations real estate financing loans make up a large part of the loans offered by commercial banks. This study infers that falling of real estate prices signifies a lower return for real estate thus loans extended to real estate sector is expected to default. This reduces the banks' profitability and raises the bad debt expenses of the banks.

Other findings also support the above position that real estate loans incase not paid result to adverse effects on the financial condition of the creditor (commercial banks) have been advanced by Agu and Okoli (2013) who argued that the inability to pay results to increased bad loans that results to a negative financial effect on a

commercial bank. Logically, bad loans take a toll on commercial banks performance hence an inverse effect as argued by Chelagat (2012) and also Awunyo-Vitor (2013). The study findings are also in agreement with the various central bank reports on banks engaged in mortgage facilities in the sense that if the real estate loans are paid within the stipulated time and maturity period is obeyed, this will help in boosting the liquidity status of commercial banks hence positivity in influencing the CR and vice versa will negatively influence the liquidity position of commercial banks.

4.6.3 Correlation Analysis for variable SMEs loans

Pearson Correlation Coefficient informs an analyst of the direction and magnitude of association between two variables. A larger coefficient indicates a stronger association between the two variables. Mugenda and Mugenda (2003) have accentuated that in the computation of a Coefficient of Correlation it yields a statistic that spans from -1 to 1. They highlighted that if the correlation coefficient is negative (-), then a negative association between the two variables exists and vice versa. Pearson correlation coefficient was used to gauge the correlation between SME loans and financial performance as indicated in table 4.14.

Table 4.14: Correlation Analysis for Variable SMEs Loans

	ROA	ROE	CR	SMEs loans
ROA	1.0000			
ROE (r)	-0.0676	1.0000		
P-Value	0.1825			
CR (r)	-0.0040	0.9834	1.0000	
P-Value	0.9366	0.0000		
SMEs loans (r)	0.2032	0.2555	0.2915	1.0000
P-Value	0.0000	0.0000	0.0000	0.0000

N = 390

Key: ROA = Return on Assets; ROE = Return on Equity; CR = Current Ratio

The results indicated that SMEs loans have a significant positive relationship with ROA. This was indicated by Table 4.14, which show that the p-value was at p =

0.000 and this met the threshold since $p < 0.05$. The positive relationship was represented by correlation coefficient of 0.2032, and the number of respondents considered was 390. The results also indicated that SMEs loans have a significant positive relationship with ROE. This was indicated by Table 4.14, which show that the p-value was at $p = 0.000$ and this met the threshold since $p < 0.05$. The positive relationship was represented by correlation coefficient of 0.2555, and the number of respondents considered was 390. Lastly, the results indicated that SMEs loans have a significant positive relationship with CR. This was indicated by Table 4.14, which show that the p-value was at $p = 0.000$ and this met the threshold since $p < 0.05$. The positive relationship was represented by correlation coefficient of 0.2915, and the number of respondents considered was 390.

The results corroborate the findings of Alan (2013) that loans advanced to SMEs influenced financial performance of Commercial banks in Uganda. The above position is also supported by Appiah (2010) who noted that in case the loans are serviced they go a long way in supporting profitability among commercial banks thus the relationship can be positive with limited levels of SME defaulting.

The above findings differed from those of Karim et al. (2010) who argued that since most SMEs operate in an environment that is not favourable for their growth, advancing loans to them may lead to an increased chance of bad debt thus negatively affect the performance of the banks. Nguta & Huka, (2013) also disagreed with the findings that there is a positive relationship between SME loans and bank performance as they found out that when banks advance more loans to SMEs they lose their lending ability and by extension their revenue in case of loan defaults thus significantly reducing the banks' ability and capability of being more profitable over time.

4.6.4 Correlation Analysis for Variable Insider Loans

Pearson Correlation Coefficient informs an analyst the direction and magnitude of the correlation between two variables. The larger the coefficient the stronger the relationship between the two variables. Mugenda and Mugenda (2003) have accentuated that in the computation of a Coefficient of Correlation it yields a statistic

that spans from -1 to 1. They highlighted that if the correlation coefficient is negative (-), then a negative association between the two variables exists and vice versa. Pearson correlation coefficient was used to gauge the relationship between insider loans and financial performance whose results are tabled 4.15.

Table 4.15: Correlation Analysis for Variable Insider Loans

	ROA	ROE	CR	Insider loans
ROA	1.0000			
ROE (r)	-0.0676	1.0000		
P-Value	0.1825			
CR (r)	-0.0040	0.9834	1.0000	
P-Value	0.9366	0.0000		
Insider loans (r)	0.0971	-0.2862	-0.3041	1.0000
P-Value	0.0000	0.0000	0.0000	0.0000

N = 390

Key: ROA = Return on Assets; ROE = Return on Equity; CR = Current Ratio

The results indicated that insider loans have a significant positive relationship with ROA. This was indicated by Table 4.15, which show that the p-value was at $p = 0.000$ and this met the threshold since $p < 0.05$. The positive relationship was represented by correlation coefficient of 0.0971, and the number of respondents considered was 390. The results also indicated that insider loans have a significant inverse relationship with ROE. This was indicated by Table 4.15, which show that the p-value was at $p = 0.000$ and this met the threshold since $p < 0.05$. The positive relationship was represented by correlation coefficient of -0.2862, and the number of respondents considered was 390. The results indicated that insider loans have a significant inverse relationship with CR. This was indicated by Table 4.15, which show that the p-value was at $p = 0.000$ and this met the threshold since $p < 0.05$. The positive relationship was represented by correlation coefficient of -0.3041, and the number of respondents considered was 390.

The results corroborate with the findings from a study by Berrios (2013) on the association between bank credit risk and financial performance and the contribution of risky lending to lower bank profitability and liquidity. The study found a negative relationship between less prudent lending and ROA and less prudent lending and CR, insider holdings and longer chief executive officer tenure were negatively related to bank performance. Further, a study by Waweru (2014) indicated that insider lending has a very weak negative relationship with financial risk among commercial banks in Kenya.

Other research findings that support the positions postulate that the theories of agency theory (Jensen & Meckling, 1976), portfolio theory (Markowitz, 1952) and Moral Hazard theory (Arkeloff, 1970). Agency theory (Jensen & Meckling, 1976) anticipates insider lending to create agency problems thus influencing financial risk and financial performance negatively, this research study findings concur with this position. Moral hazard theory (Arkeloff, 1970) foresees insider borrowers obtaining the incentive not to repay or service their facilities, thus negatively influencing financial risk and performance on finances also, the negative correlation found by this study serves to support this theory's perspective. The very weak negative relationship between financial performance and insider loans found by this research study is better than the theories posit since it can be used to explain the present scenario as to why some commercial banks in tier 3 with higher insider lending are experiencing weak financial performance with a higher possibility of collapsing.

The risk attached to any loan facility is the chance that the loan may not be repaid as and when due (Ogbuagu et al., 2016). Insider loans are often the major reason for large nonperforming loans portfolio in some commercial banks as the study findings suggest, the extension of loans and advances done outside the arm's length basis and often based on friendship becomes bad and doubtful, and irrecoverable. Nonperforming loans portfolio has a negative influence on bank profitability and returns thereby exposing most commercial banks to a state of weak financial performance (Ugoani, 2016).

Insider lending is often characterized by less stringent conditions underlying the facilities, there is a negative relationship between less prudent lending and net interest margin which in turn causes low profitability (Berrios, 2013). According to moral hazard theory (Akerlof, 1970), borrowers and specifically insider borrowers have the incentive to dishonor loan terms after benefiting from the funds advanced. These inside borrowers are privy to the relaxed terms that allowed them access to the loans; they may willfully or inadvertently fail to repay their dues. This is confirmed by the study findings that those commercial banks that were found with higher insider lending practices had also higher default rates within the same loaning facility hence negatively influencing the ROE and CR and overall financial performance.

4.7 Regression Analysis

4.7.1 Influence of Personal Loans on Financial Performance

The research endeavored to establish the sway of personal loans on the performance of commercial banks in Kenya in terms of finances. The results are shown in Table 4.16.

Table 4.16: Regression Results of Personal Loans as Independent Variable- Random Effects and Fixed Effect Model

	Personal loans	Coefficient	Std. Error	Z	T	P> z	Model
Model 1a	CR	-75.14	12.98	-5.79		0.000	Random-effect
Model 1b	ROE	-91.07	15.01	-6.07		0.000	Random-effect
Model 1c	ROA	13.60	2.26		6.02	0.000	Fixed effect
Statistics	Model 1a	Model1b	Model1c				
Wald chi2(1)	33.51	36.81					
Prob > chi2	0.000	0.000	0.000				
R-Squared	0.080	0.087	0.094				
Rho	0.000	0.000	0.220				

Key: ROA = Return on Assets; ROE = Return on Equity; CR = Current Ratio

As shown in Table 4.16, results on the effect of personal loans on ROA show that the coefficient of personal loans was 13.60 hence personal loans had a positive influence on ROA. The p value was 0.000 which is less than 5% level of significance. This indicates that personal loans had a significant positive influence on ROA. With regard to CR, the coefficient of personal loans was -75.14 hence personal loans had an inverse relationship with CR. The p value was 0.000 which is less than 5% level of significance implying a significant influence of personal loans on CR. With regard to ROE, the coefficient of personal loans was -91.074 hence personal loans had a negative influence on ROE. The p-value was 0.000 which is less than 5% level of significance. This indicates that personal loans had a significant negative influence on ROE.

The study findings are in congruent with findings by Ayele (2012) that personal loans had an inverse correlation with ROE and a positive correlation with ROA. Owojori et al. (2010) displayed that the statistics acquired from liquidated banks in Nigeria clearly showed the major contributor to the financial crises of the liquidated banks was their inutility in the collection of personal loans and advances extended to customers. In 1995 when the distress was at its peak, 60 banks were in crises out of the 115 operational banks. The ratio of their non-performing loans and leases to their total loans and leases was 67%. This ratio regressed to 79% in 1996 and 82% in the following year; By December 2002, 35 of the disconsolate banks licenses had been revoked. At the time of the revoking of the banking licenses some of the institutions recorded ratios of performing credits that were less than 10% of loan portfolios (Hamisu, 2011)

According to Khole (2012) the rising number of applications being made by customers shows the growth in demand for personal loans. This is a product that depository financial institutions in Kenya have set their eyes on the credit demand. Growth influencing factors in this scenario encompass reasons like the speed and relative easiness with which one can obtain unsecured personal loans. Personal loans have opened up an attractive market opportunity for creditors who have valiantly chased a lending growth strategy in this product, specifically because of the margins that stand to be made in the current market. Majority of commercial banks have

entered into memorandum of understanding (MOU) with employers who have agreed to deduct loan monthly repayments from their payrolls and submit the funds direct to the banks.

4.7.2 Influence of Real Estate Loans on the Financial Performance

This study sought to establish the influence of real estate loans on financial performance of commercial banks in Kenya. The results are shown in Table 4.17.

Table 4.17: GLS Regression Results of Real Estate Loans as Independent Variable-Random Effects

	Real estate loans	Coefficient	Std. Error	Z	T	P> z	Model
Model 1a	CR	40.42	10.851	3.73		0.000	Random effect
Model 1b	ROE	54.35	12.519	4.34		0.000	Random effect
Model 1c	ROA	-15.95	1.436	-11.11		0.000	Random effect
Statistics	Model 1a	Model1b	Model1c				
Wald chi2(1)	13.88	18.85	123.48				
Prob > chi2	0.0002	0.0000	0.0000				
R-Squared	0.1977	0.2209	0.2542				
Rho	0.000	0.000	.14585				

Key: ROA = Return on Assets; ROE = Return on Equity; CR = Current Ratio

As shown in Table 4.17, results on the effect of real estate loans on ROA show that the coefficient of real estate loans was -15.95 hence real estate loans had a negative influence on ROA. The p value was 0.000 which is less than 5% level of significance. This indicates that real estate loans had a significant negative influence on ROA. With regard to CR, the coefficient of personal loans was 40.42 hence real estate loans had a positive relationship with CR. The p value was 0.000 which is less than 5% level of significance implying a significant influence of real estate loans on

CR. With regard to ROE, the coefficient of real estate loans was 54.35 hence real estate loans had a positive influence on ROE. The p value was 0.000 which is less than 5% level of significance. This indicates that real estate loans had a significant positive influence on ROE.

In a similar study, Ojiambo (2014) showed that real estate financing affected the performance of listed commercial banks in Kenya. According to Lipunga (2014), commercial banks that offer real estate loans consider it a strategy for diversifying risk with the aim of lowering their risks of loss through NPLs more specifically the unsecured ones. This is expected to improve the performance of the commercial banks.

This study infers that commercial banks that offer real estate loans hold diversified portfolios of mortgage loans and therefore spreading risks in a manner that would be impossible if individuals were making real estate loans directly. Since commercial banks are large in size and number they gain in economies of scale. They are also more experienced in setting up, analyzing credit, loans, and making collections than individuals; hence reducing the processing costs of loans and subsequently increasing the availability of real estate loans. Real estate financing requires borrowers to put in some savings to finance part of the cost of property by making a down payment. This in turn lowers the ratio of the non-performing loans to total loan portfolio of the bank (Kimeu, 2008).

4.7.3 Influence of SMEs Loans on the Financial Performance

The research endeavored to establish the sway of SMEs loans on the financial performance of commercial banks in Kenya. The results are shown in Table 4.18.

Table 4.18: GLS Regression Results of SME loans as Independent Variable- Random Effects

	SME loans	Coefficient	Std. Error	Z	T	P> z	Model
Model 1a	CR	69.10	11.51338	6.00		0.000	Random effect
Model 1b	ROE	70.32	13.50993	5.21		0.000	Random effect
Model 1c	ROA	6.89	1.782788	3.86		0.000	Random effect
Statistics	Model 1a	Model1b	Model1c				
Wald chi2(1)	36.02	27.10	14.92				
Prob > chi2	0.0000	0.0000	0.0001				
R-Squared	0.2537	0.2167	0.0727				
Rho	0.000	0.000	.12092719				

Key: ROA = Return on Assets; ROE = Return on Equity; CR = Current Ratio

As shown in Table 4.18, the Wald statistic is 36.02 and is larger than the critical value of 5% level of significance. Therefore, the variables (loan portfolio components) are accordingly important in explaining the variations in return on equity in the random effects specification. Results on the effect of SMEs loans on ROA show that the coefficient of SMEs loans was 6.89 therefore SMEs loans had a positive influence on ROA. The p value was 0.000 which is less than 5% level of significance. This indicates that SMEs loans have a significant positive influence on ROA. With regard to CR, the coefficient of SMEs loans was 69.10 hence SMEs loans had a positive relationship with CR. The p value was 0.000 which is less than 5% level of significance implying a significant influence of SMEs loans on CR. With regard to ROE, the coefficient of SMEs loans was 70.32 hence SMEs loans had a positive influence on ROE. The p value was 0.000 which is less than 5% level of significance. This indicates that SMEs loans had a significant positive influence on ROE.

In a similar study, Dirnhofer (2012) examined the impact of SMEs loans on the performance of the Top 375 US banks during the financial crisis. The study used a correlational study design and only secondary data was used. Regression analysis

was carried out to examine the relationship between the variables and bank performance. Financial institutions that were highly involved in providing SME loans are more likely to perform poorly during the financial turmoil. In addition, SMEs loans had a positive association on the number of impaired loans.

4.7.4 Influence of Insider Loans on the Financial Performance

The study sought to determine the significance of insider loans on the performance of Kenyan commercial banks. The results are shown in Table 4.19.

Table 4.19: GLS Regression Results of Insider Loans as Independent Variable- Random Effects

	Insider loans	Coefficient	Std. Error	Z	T	P> z	Model
Model 1a	CR	-89.53	14.239	-6.29		0.000	Random effect
Model 1b	ROE	-97.84	16.627	-5.88		0.000	
Model 1c	ROA	.0244	.035	0.69		0.489	
Statistics	Model 1a	Model1b	Model1c				
Wald chi2(1)	39.53	34.63	0.48				
Prob > chi2	0.0000	0.0000	0.4895				
R-Squared	0.2966	0.2655	0.0015				
Rho	0.000	0.000	.34309453				

As shown in Table 4.19, results on the effect of insider loans on ROA show that the coefficient of insider loans was 0.0244 hence insider loans had a positive influence on ROA. The p value was 0.489, which is greater than 5% level of significance. This indicates that insider loans had an insignificant positive influence on ROA. With regard to CR, the coefficient of insider loans was -89.53 hence insider loans had an inverse relationship with CR. The p value was 0.000, which is, less than 5% level of significance implying a significant influence of insider loans on CR. With regard to ROE, the coefficient of insider loans was -97.84 hence insider loans had a negative

influence on ROE. The p- value was 0.000, which is less than 5% level of significance. This indicates that insider loans had a significant negative influence on ROE. The results showed that insider loans influenced the financial performance of commercial banks under study. From the results, a unit increase in insider loans led to -89.53 units decrease in current ratio, and -97.84 units decrease in ROE and 0.0244 unit increases in ROA.

According to Ugoani (2016), insider loans are often the major reason for large non-performing loan portfolio by commercial banks; the extension of loans and advances done outside the arm's length basis involves loans to company promoters, directors and other key stakeholders that become bad and doubtful, and irrecoverable. Non-performing loans portfolio has negative effect on bank profitability thereby exposing banks to financial risk. Insider lending is often characterized by less stringent conditions underlying the facilities; there is a negative relationship between less prudent lending and net interest margin (Berrios, 2013). According to moral hazard theory (Akerlof as cited in Ajiambo, 2016), borrowers and specifically insider borrowers have the incentive to dishonor loan terms after benefiting from the funds advanced. These insider borrowers are privy to the relaxed terms that allowed them access to the loans; they may willfully or inadvertently fail to repay their dues. This then exposes the lender(s) to increased financial risk and reduced profits.

4.7.5 Influence of Loan Portfolio on Financial Performance

The overall motive of this study was to establish the influence of loan portfolio on the financial performance of Kenyan commercial banks. To fulfill this motive, the study estimated panel regression Equation 1, 2 and 3 for random effects and fixed effect models as supported by the Hausman test. The results of panel regression analysis are laid out in Table 4.20.

Table 4.20: GLS Panel Regression Results of the Un-moderated Model

	CR	Coefficient	Std. Error	Z	T	P> z	Model
Model 1	PL	-64.57223	92.56969	-0.70		0.485	RE
	RL	-49.1428	91.74666	-0.54		0.592	
	SL	-16.84846	93.66986	-0.18		0.857	
	IL	-101.1758	96.68792	-1.05		0.295	
	_cons	62.86004	92.62044	0.68		0.497	
Model 1b	ROE	Coefficient	Std. Error	Z	T	P> z	Model
	PL	-106.526	108.059	-0.99		0.324	RE
	RL	-59.51363	107.0982	-0.56		0.578	
	SL	-44.68181	109.3432	-0.41		0.683	
	IL	-108.9587	112.8663	-0.97		0.334	
	_cons	85.60401	108.1182	0.79		0.428	
Model 1c	ROA	Coefficient	Std. Error	Z	T	P> z	Model
	PL	9.554883	11.55047		0.83	0.409	FE
	RL	-20.44106	11.36587		-1.80	0.073	
	SL	4.436733	11.77673		0.38	0.707	
	IL	-16.87461	12.12824		-1.39	0.165	
	_cons	9.204822	11.55044		0.80	0.426	
Statistics	Model 1a	Model1b	Model1c				
Wald chi2(1)	47.64	42.96					
Prob > chi2	0.0000	0.0000	0.0000				
R-Squared	0.3250	0.3190	0.4910				
Rho	0.000	0.000	.15619804				

Key: ROA = Return on Assets; ROE = Return on Equity; CR = Current Ratio; PL=personal loans; RL=real estate loans; SL=SME loans; IL=insider loans.

As shown in Table 4.20, results on the effect of loan portfolio on ROA show that the coefficient loan portfolio explain up to 49.10% of variations in ROA of commercial banks in Kenya. This is based on the resultant determinant coefficient (R^2) value equivalent to 0.4910. This indicates a relatively good measure of fit for the variables included in the model. Further, the corresponding p – value of 0.0000 signify that the coefficients of the four variables are jointly statistically different from zero at 95% confidence level.

As shown in Table 4.20, results on the effect of loan portfolio on ROE show that the coefficient loan portfolio explains up to 31.9% of variations in ROE of commercial banks in Kenya. This is based on the resultant Wald-statistic value equivalent to

42.96 together with coefficient of determination (R²) value equivalent to 0.3190. This indicates a relatively good measure of fit for the variables included in the model. Further, the corresponding p – value of 0.0000 signify that the coefficients of the four variables are jointly statistically different from zero at 95% confidence level.

As shown in Table 4.20, results on the effect of loan portfolio on CR show that the coefficient loan portfolio explain up to 32.5% of variations in CR of Kenyan commercial banks. This is based on the resultant Wald-statistic value equivalent to 47.64 together with coefficient of determination (R²) value equivalent to 0.3250. This indicates a relatively good measure of fit for the variables included in the model. Further, the corresponding p – value of 0.0000 signify that the coefficients of the four variables are jointly statistically different from zero at 95% confidence level.

Therefore, the loan portfolio and financial performance models (without the moderating variable) can now be presented as follows:

$$Y = 62.86004 + -101.1758 \text{ ILTL} + -16.84846 \text{ SLTL} + -49.1428 \text{ RLTL} + -64.57223 \text{ PLTI} + \varepsilon \dots \dots \dots \text{equation 1}$$

Where y is financial performance measured in terms of Current ratio (CR)

$$Y = 85.60401 + -108.9587 \text{ ILTL} + -44.68181 \text{ SLTL} + -59.51363 \text{ RLTL} + -106.526 \text{ PLTI} + \varepsilon \dots \dots \dots \text{equation 2}$$

Where y is financial performance measured in terms of Return on Equity (ROE)

$$Y = 9.204822 + -16.87461 \text{ ILTL} + 4.436733 \text{ SLTL} + -20.44106 \text{ RLTL} + 9.554883 \text{ PLTI} + \varepsilon \dots \dots \dots \text{equation 3}$$

Where y is financial performance measured in terms of Return on Asset (ROA)

The findings were in line with what Olweny and Shipho (2011) who found out that specific banking sector factors has ability to influence bank performance as all the banks had specific factors that were statistically significant impact and hence affected performance. Hamisu (2011) also in support of the same notes that loans are

among the highest yielding bank assets that have a positive influence to its balance sheet. They also account for the largest share of the operating revenue. Since loans are given from the funds deposited by customers, a bank faces a liquidity risk.

Hamisu (2011) further noted that in credit creation both the lender and the borrower leave themselves susceptible to huge risks. The uninterrupted running of banks is put at risk when a trading partner fails in meeting the obligation as per the contract on due date or later. The higher the credit risks the higher the chances of bankruptcy putting depositors in jeopardy. By failing to collect loans availed to customers, companies related to directors and the directors themselves proved to be a source of distress for the liquidated banks Owojori et al. (2011). In 1995 when the distress was at its peak, 60 banks were in crises out of the 115 operational banks the ratio of NPLS and leases to their total loans and leases was 67%. This ratio regressed to 79% in 1996 and 82% in the following year; By December 2002, 35 of the distressed banks had their licenses revoked. At the time of the revoking of the banking licenses some of the institutions recorded ratios of performing credits that were less than 10% of loan portfolios (Hamisu, 2011). This study infers that banks have resorted to engaging in excessive risks as they strive to retain relevance and survive in this highly competitive environment. However, this tendency has resulted in a large number of banks failing and declaring insolvency. The more the volume of loans advanced the greater the interest income and hence the profit potentials for the commercial banks. At this juncture, it is also worth observing that the higher the volume of loans, the higher the liquidity risk facing the banks. Thus, the need for commercial banks to strike a balance between liquidity and profitability.

On the other hand, Stuti and Bansal's (2013) findings were at variance with the above and instead argued that the objective measure of performance of the banking industry was how Non-performing loans and accounts were. The scholars argued that NPLs reflects the financial performance of financial institution hence a drop in the ratio of Non-performing loans indicated improvement in the measure of quality of assets held by commercial banks. An increase in the non-performing loans as compared to total loans is an indicator that the performance of commercial banks is under threat.

However, Afriyie (2011) as well as Ogboi and Unuafe (2013) found out that there is a positive relationship between the two study variables. The findings indicated that a loan portfolio that is lower and not performing is associated with lower risk while a high or increasing portfolio that is largely not performing is a high-risk hence compromises commercial bank performance and probability. This means that banks risk management is required due diligence in credit analysis and appraisal. Since NPL is a probability of loss, it requires provision. Thus, high NPL increases the provision while reduces the profit. Non-performing loan over total loans shows the level of banks' exposure to credit risk

4.7.6 The Moderating Influence of Bank Size between the Loan Portfolio and Financial Performance of Commercial Banks in Kenya

To assess the moderating effect, the study applied hierarchical regression method as underscored by Baron and Kenny (1986) who defined a moderator as a variable that affects the direction and or strength of the relationship between a predictor and a criterion variable. They posit that moderation can only be supported if path C (which is the interaction of paths A and B) is significant.

To test for the moderation effect, a hierarchical regression analysis was conducted by first using the following two steps. Step one, tested the influence of loan portfolio (Personal loans, Real Estate loans, SMEs loans and Insider loans) on financial performance among commercial banks in Kenya. Step two tested the influence of bank size on financial performance. Then in step three, the interaction term was introduced in the equation and its significance evaluated when controlling for loan portfolio (Personal loans, Real Estate loans, SMEs loans and Insider loans) influence on financial performance in Kenya. The interaction term was computed as the product of the standardized scores of loan portfolio (Personal loans, Real Estate loans, SMEs loans and Insider loans) and bank Size (S). To confirm moderation, the influence of the interaction term should be significant. The significance of the predictor variable and the moderator variable is not mostly relevant in determining moderation.

The relationship was depicted in Figure 4.1.

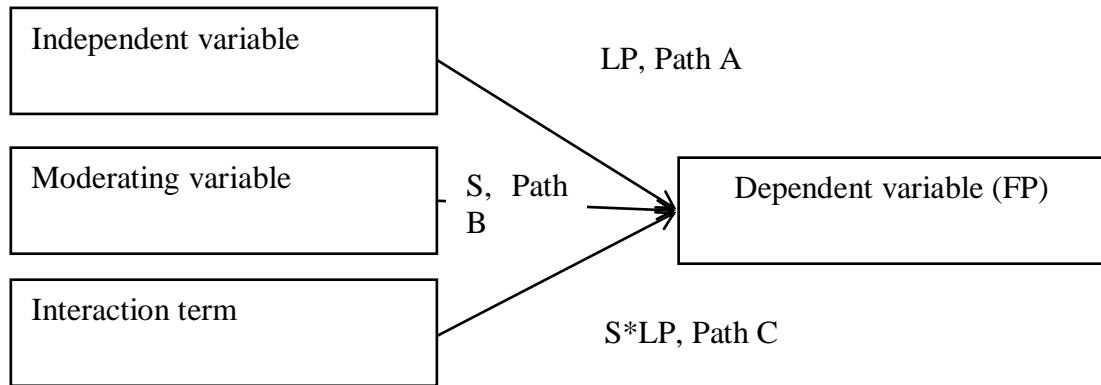


Figure 4.1: Test of moderation-path diagram for direct and indirect effects

Figure 4.1 illustrates that each arrow in the path represents a causal relationship between two variables to which are assigned the change statistics (R² and F ratio). This shows the direction and magnitude of the effect of one variable on the other. Using hierarchical regression analysis, both direct and indirect causalities were determined by first regressing loan portfolio (LP) on financial performance for the direct causality. The same procedure was repeated with the inclusion of banks size where the indirect causality (S was determined).

The results presented in Table 4.21 show the regression results of the model upon moderation by bank size. The objective of the study was to determine whether the influence of different proxies of loan portfolio on financial performance changes with introduction of interaction between loan portfolio and bank size variables.

Table 4.21: Panel Regression Results of the Moderated Model – Fixed Effect

Model 2a	CR	Coefficient	Std. Error	Z	T	P> z 	Model
	PL	58.37159	72.66824		0.80	0.422	FE
	RL	-32.16204	68.56786		-0.47	0.639	
	SL	-8.977633	71.23941		-0.13	0.900	
	IL	390.428	76.27677		5.12	0.000	
	S*PL	-7.676234	4.121804		-1.86	0.063	
	S*RL	8.929309	3.335663		2.68	0.008	
	S*SL	4.947007	3.575667		1.38	0.167	
	S*IL	-56.30867	4.730474		-11.90	0.000	
	S	44.13996	4.885162		9.04	0.000	
	_cons	-81.77216	74.4624		-1.10	0.273	
Model 2b	ROA	Coefficient	Std. Error	Z	T	P> z	Model
	PL	.3678869	.216392		1.70	0.090	FE
	RL	.3271548	.216392		1.60	0.110	
	SL	.3483119	.2121372		1.64	0.102	
	IL	.5124682	.2271375		2.26	0.025	
	S*PL	-.0063404	.003302		-1.92	0.003	
	S*RL	.0114594	.0061943		1.85	0.049	
	S*SL	.0176278	.008994		1.96	0.004	
	S*IL	-.0037978	.001988		-1.91	0.018	
	S	-.0166341	.0145471		-1.14	0.254	
	_cons	-.1315643	.2217347		-0.59	0.553	
Model 2c	ROE	Coefficient	Std. Error	Z	T	P> z	Model
	PL	129.3972	80.51705	1.61		0.108	FE
	RL	.0133465	75.44844	0.00		1.000	
	SL	-69.1575	78.79086	-0.88		0.380	
	IL	340.7728	84.35936	4.04		0.000	
	S*PL	-25.54053	4.530845	-5.64		0.000	
	S*RL	7.088738	3.55399	1.99		0.046	
	S*SL	11.84173	3.756375	3.15		0.002	
	S*IL	-44.15903	5.158619	-8.56		0.000	
	S	45.32571	5.310997	8.53		0.000	
	_cons	-91.25179	80.14608	-1.14		0.255	
Statistics	Model 2a	Model 2b	Model 2c				
Wald			551.77				
chi2(1)							
Prob >	0.000	0.1287	0.0000				
chi2							
R-Squared	0.6180	0.0393	0.6283				
Rho	.24639382	.39400258	.08701043				

Key: ROA = Return on Assets; ROE = Return on Equity; CR = Current Ratio; PL= personal loans; RL=real estate loans; SL= SME loans; IL= insider loans.

Table 4.22: Statistics Summary for Moderated and Un-Moderated Regression Model Analysis Result

Un-moderated models				Moderated Models			
Statistics	Model 1a	Model1 b	Model 1c	Statistics	Model 2a	Model2 b	Model2 c
Wald chi2(1)	47.64	42.96		Wald chi2(1)			551.77
Prob > chi2	0.000	0.000	0.000	Prob > chi2	0.000	0.1287	0.000
R-Squared	0.325	0.319	0.491	R-Squared	0.618	0.0393	0.6283
Rho	0.000	0.000	0.1562	Rho	0.24639	0.394	0.08701

Table 4.22 contrasting of the panel regression findings of the moderated equation against those of the model without moderation reveals that introduction of moderation results improves the model’s predictive power as evidenced by increase in the R- squared values. Specifically, introduction of bank size explained 61.8% variation in CR compared to 32.5% variation explained before introduction of bank size. In addition, the introduction of bank size explained 39.3% variation in ROA compared to 49.10% variation explained before introduction of bank size. Lastly, introduction of bank size explained 62.83% variation in ROE compared to 31.90% explained before introduction of bank size. In addition, the Wald statistic for the equations is statistically significant indicating that the variables used are statistically significant. The results also indicate that the bank size has an important effect on financial performance during the period of study. This statistical finding signifies that the interaction between bank size and loan portfolio has significant moderation effect on financial performance of commercial banks in Kenya.

Therefore, the loan portfolio and financial performance models (with the moderating variable) can now be presented as follows:

$$Y = -81.77216 + 7.676234 S*PL + 8.929309 S*RL + 4.947007 S*SL + -56.30867 S*IL + \epsilon \dots \dots \dots \text{equation 4}$$

Where Y is financial performance measured in terms of Current ratio (CR)

$$Y = -0.1315643 + -0.0063404S*PL + 0.0114594S*RL + 0.0176278S*SL + -0.0037978S*IL + \epsilon \dots \dots \dots \textit{equation 5}$$

Where Y is financial performance measured in terms of Return on Assets (ROA)

$$Y = -91.25179 + -25.54053S*PL + 7.088738 S*RL + 11.84173 S*SL + -44.15903 S*IL + \epsilon \dots \dots \dots \textit{equation 6}$$

Where Y is financial performance measured in terms of Return on Equity (ROE).

Goddard et al. (as cited in Ajiambo, 2014) identified only slight relationship between the size of a bank and their financial performance. Another researcher Smirlock (1985) cited in Ajiambo (2014) carried out a study indicating there positive nature of the relationship between the bank’s size and its financial performance. This is associated with the fact that the bigger the size of the bank the lower the cost of raising capital for that bank and thus the higher the profitability ratios. Other studies by Bikker and Hu and Goddar d et al. (as cited in Ajiambo, 2014) agree with the previous study and they note that an increase in the size of a monetary institution has a positive effect on the bank’s financial performance since it significantly reduces the cost of seeking capital. It is however important to note that researchers have had no consensus on whether a growth in the bank’s size through increased market share and number of branches provides economies of scale to commercial banks which eventually leads to the improved financial performance.

This is therefore an issue that needs to be evaluated further through more studies. In support of the above, Davydenko (2010) found out that loan operating costs incurred by the commercial banks had an influence on overall performance of the bank with the bank size as a moderating factor. In support of this point of view, other studies including those done by Karim et al. (2010), who were investigating the relationship between NPLs and bank efficiency found out that higher percentage of NPLs can significantly reduce cost efficiency of any bank thus, need for good management to enhance general performance of the banking institutions. Loan portfolio has a significant effect on commercial bank performance, which is because wrong

portfolio means increased non-performing loans while a good portfolio is a sustainable way of maintaining good performance (Lata, 2014). Balasubramaniyan (2013) who argues that largely financial performance of any commercial bank can be objectively measured in terms of the ability to make profits by having a well-balanced loan portfolio that can reduce NPLs also amplifies the above perspective.

4.8 Hypothesis Testing Results

Hypothesis testing is a process by which the researcher infers the result of sample data on the larger population based on a presupposition made prior to commencement of research (Gujarati, 2003). The study performed hypothesis testing by determining statistical significance of the coefficients of explanatory variables. Test-of-significance method is meant to ascertain the truth or falsity of a null hypothesis by using sample results, showing that the means of two normally distributed populations are equal. This was done by using the corresponding p -values at 1%, 5% and 10% levels. The decision to use a two-tailed test was based on the fact that the alternative hypothesis of the study is composite rather than directional (Gujarati, 2003). This procedure was carried out against the null hypotheses enumerated in section 1.4 of chapter one. In all the tests, the decision rule was that: were the p -value observed to be less than the set alpha (significance level), then reject the null hypothesis and if the observed p -value is greater than the set alpha, do not reject the null hypothesis.

H₀1: Personal loans have no significant influence on the commercial banks' financial performance in Kenya

The analysis results (in section 4.9.1) show that personal loans had a telling influence on financial performance at 5% level of significance. This is based on the p -values corresponding to the coefficients equivalent to 0.0000. This result led the study to reject the stated null hypothesis with confidence levels of 95% therefore accepting the alternative hypothesis and concluded that personal loans have a momentous sway on commercial banks' financial performance in the finance sector in Kenya. These results are in agreement with the study by Cole and White (2012) that established that more loans to individuals reduced the likelihood of a bank failure thus improving

financial performance. They found no significance for commercial and industry loans (or C&I loans).

H₀2: Real estate loans do not have a significant influence on the commercial banks' financial performance in Kenya.

The analysis results show that real estate loans have a significant influence on the commercial banks' financial performance in Kenya at 5% level of significance (See section 4.9.2). This is based on the *p*-values corresponding to the coefficients equivalent to 0.0000. This result led the study to reject the stated null hypothesis with confidence levels of 95% therefore accepting the alternative hypothesis and concluded that real estate loans have a significant influence on commercial banks' financial performance in Kenya

One can find similarities existing between this study's findings and the existing literature. Esbitt as well as Cole and White (as cited in Alexandra, 2014) both found that more real estate loans increased the chances of banks failing. Rosengren and Browne (as cited in Alexandra, 2014) found that a large number of bank failures was caused by the rapid growth in real estate loans. One should note that bank failures was not used in this study as dependent variable, however net interest has an adverse relation with bank failures (Herrero, 2003).

The data in these studies support the notion that banks are more likely to fail with the more real estate loans they undertake. This corresponds to the low net interest income. The effect of real estate loans on financial performance of banks is a hotly contested topic and the findings differ from previous studies (Cole & Fenn, 1996; Abrams & Huang, 1987; Alexandra, 2014) which found an adverse interaction between real estate loans and bank failures.

H₀3: Loans advanced to small and micro enterprises have no significant influence on the commercial banks' financial performance in Kenya

The analysis results show that Loans advanced to small and micro enterprises do have a significant sway on the commercial banks' financial performance in Kenya at

5% level of significance (See section 4.9.3). This is based on the *p*-values corresponding to the coefficients equivalent to 0.0000. This result led the study to reject the stated null hypothesis with confidence levels of 95% therefore accepting the alternative hypothesis and concluded that loans advanced to small and micro enterprises have a momentous sway on commercial banks' performance in terms of finances in Kenya. The findings are in line with Bechtel, Hainmueller & Margalit, (2014) findings in his study on loan mix characteristics on bank profitability that the rate of growth in SMEs loans during recessions were established to having a positive relationship with the growth rate of net interest income at the 5% level of significance.

H₀₄: Insider loans do not have a significant influence on the commercial banks' financial performance in Kenya.

The analysis results show that insider loans have a significant influence on the commercial banks' financial performance in Kenya at 5% level of significance (See section 4.9.4). This is based on the *p*-values corresponding to the coefficients equivalent to 0.0000. This result led the study to reject the stated null hypothesis with confidence levels of 95% therefore accepting the alternative hypothesis and concluded that insider loans possessed a momentous sway on commercial banks' performance in terms of finances in Kenya. The findings are in line with Bechtel (2014) findings in his study on loan mix characteristics on bank profitability that the effect of insider loans on profitability, both overall and during recessions, was significant at the 1% level of significance.

H₀₅: Bank size does not have a significant moderating influence between loan portfolio and the commercial banks' financial performance in Kenya.

The contrast of panel regression results of the moderated equation against those of the model without moderation reveal that introduction of moderation result in improvement of the model's predictive power as evidenced by increase in the R-squared values. Introduction of bank size explained 61.8% variation in CR compared to 32.5% variation explained before introduction of bank size. Bank size explained 39.3% variation in ROA compared to 49.10% variation explained before introduction

of bank size. Lastly, introduction of bank size explained 62.83% variation in ROE compared to 31.9% explained before introduction of bank size. In addition, the Wald statistic for the equations is statistically significant indicating that the variables used are statistically significant (See section 4.9.6).

The null hypotheses were rejected by the results of this research with a 95% level surety because it authorized the use of alternative hypothesis that determined that the bank size have a significant moderating influence between loan portfolio and the commercial banks' financial performance in Kenya.

Table 4.23: Summary of the Findings

Objective	Hypothesis	Finding	Decision
Examine the influence of Personal loans on financial performance	H ₀ 1: Personal loans have no significant influence on financial performance of commercial banks	The P-values correspond to the coefficients of 0.000 at 5% significance level.	Reject the null hypothesis with 95% confidence level.
Establish the influence of Real estate loans on financial performance of commercial banks	H ₀ 2: Real estate loans have no significant influence on financial performance of commercial banks.	The P-values corresponds to the coefficients of 0.0000 at 5% significance level	Reject the stated null hypothesis with 95% confidence level.
Find out the influence of loans advanced to SME on financial performance of commercial banks	H ₀ 3: Loans advanced to SMEs have no significant influence on financial performance of commercial banks.	The P-values corresponds to the coefficients of 0.0000 at 5% significance level	Reject the stated null hypothesis with 95% confidence level
Establish the influence of insider loans on financial performance of commercial banks.	H ₀ 4: Insider loans have no significant influence on financial performance of commercial banks.	The p-values corresponds to the coefficients of 0.0000 at 5% significance level	Reject the stated null hypothesis with 95% confidence level
Determine the moderating influence of bank size between the loan portfolio and financial performance of commercial banks.	H ₀ 5: Bank size has no significant moderating influence between the loan portfolio and financial performance of commercial banks.	The p-values corresponds to the coefficients of 0.0000 at 5% significance level	Reject the stated null hypothesis with 95% confidence level

4.9 Summary of Data Analysis and Results

This chapter presented data analysis and results based on the study objectives. It began by presenting the data availability, Reliability and validity tests were presented. Cronbach's alpha coefficient results on the independent variable show a value of above 0.7 and above, none of the components was dropped. A panel data normality test was conducted and the p-values of most of the variables were less than 5% significance level hence the model violated the normal distribution assumption of linear regression. Multicollinearity test among the independent study variables was conducted; the findings show that the study independent variables have a high tolerance ranging between .908 and .857. Breach-Pagan/Cook-Weisberg test was conducted on the study and the chi-square values for both moderated and unmoderated variables was less than 5% significance level then this signified the absence of heteroscedasticity. The panel unit root test shows that the null hypotheses, which stated that all panels contained unit roots for all variables, were rejected at 5% significance level because the p-values were less than 5%. Hence, it implied the stationarity of the variables (no unit roots) and hence the regression results were robust even without lags (at level). When Hausman specification test was conducted it shows that fixed effect was suitable for ROA model without moderating variable and with moderating variable since P-value, Prob>chi2 was less than 0.05, random effect was suitable for ROE model without moderating variable and with moderating variable since P-value, Prob>chi2 was less than 0.05 and lastly random effect was suitable for CR model without moderating variable and with moderating variable since P-value, Prob>chi2 was less than 0.05.

Pearson correlation coefficient (r) was used on each independent variable to confirm the kind of association with the dependent variable. Simple linear regression analysis was done on each independent variable to demonstrate whether the independent variables can explain the variations in the loan portfolio and financial performance. Analysis of variance was done on all the independent variables to find out whether the model is statistically significant in explaining the change in the dependent variable. Based on the empirical results, all the null hypotheses were rejected at 95%

level of confidence and conclusions reached at 5% level of significance that all the independent variables namely personal loans, real estate loans, SME loans and insider loans have an influence on the financial performance of commercial banks. An overall statistical regression models was generated which revealed that all the independent variables have an influence on the financial performance of commercial banks in Kenya and generally the model was significant. The unmoderated regression model reveals that loan portfolio explains up to 49.10% of variations in ROA, 31.90% variations in ROE and 32.50% variations in CR while the moderated regression model indicates that the loan portfolio explains 61.8% variations on CR, 39.3% variations in ROA and lastly 62.83% variation in ROE. This statistical finding signifies that the interaction between bank size and loan portfolio has significant moderation influence on financial performance of commercial banks in Kenya.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

In a nutshell, this chapter presents the empirical results of the study, conclusions and the relevant policy recommendations. The overall motive of the study was to determine the influence of loan portfolio on the financial performance of commercial banks in Kenya. Presentation of the chapter is organized around the specific objectives and hypotheses enumerated in section 1.4. The conclusions are also aligned with the specific objectives with a particular focus on whether the research hypotheses were accepted or rejected by the study. The recommendations encapsulate suggestions meant to add value at both managerial and regulatory policy levels in accordance with the study findings. Finally, the chapter proposes areas for further research to address the gaps that could not be filled by the scope of this study.

5.2 Summary of Major Findings

This research endeavored to determine the influence that loan portfolio has on commercial banks' financial performance in Kenya. This involved investigating the influence of personal loans, real estate loans, SMEs loans and insider loans. In addition, the study sought to determine how bank size moderated the relationship between loan portfolio and financial performance. The summary and discussion followed the study hypothesis formulated in chapter one.

5.2.1 Influence of Personal Loans on Financial Performance

The first specific motive of the research was to analyze the significance of personal loans on the commercial banks' financial performance in Kenya.

The findings indicated that factor analysis was done in order for personal loans items to be practicable and meaningful in size, where all the 4 items met the threshold of 0.4 and above.

Correlation analysis results indicated that personal loans had a significant beneficial correlation with return on assets (ROA), personal loans had a significant inverse correlation with return on equity (ROE) and personal loans had a significant inverse relationship with current ratio (CR). After carrying out regression analysis, the R-squared values showed that personal loans explained 8.0%, 8.7% and 9.4% on CR, ROE and ROA respectively.

This result led the study to reject the stated null hypothesis with confidence levels of 95% therefore accepting the alternative hypothesis and concluded that personal loans have a noteworthy influence on how commercial banks fair financially in Kenya.

5.2.2 Influence of Real Estate Loans on Financial Performance

The second specific motive was to test the effect of real estate loans on the financial performance of banking institutions in Kenya. The findings indicate that factor analysis was done in order for real estate loans item to be practicable and meaningful in size, where all the 4 bits met the threshold of 0.4 and above. Correlation analysis results indicated that Real estate loans had a momentous inverse connection with ROA, real estate loans had a huge beneficial relationship with ROE and real estate loans had a significant constructive relationship with current ratio (CR).

After carrying out regression analysis, the R-squared values showed that Real estate loans explained 19.77, 22.09% and 25.42% on CR, ROE and ROA respectively. This result led the study to reject the stated null hypothesis with confidence levels of 95% therefore accepting the alternative hypothesis and concluded that real estate loans have a noteworthy say on how commercial banks perform financially in Kenya.

5.2.3 Influence of SMEs Loans on Financial Performance

The third specific motive was to test the importance of SMEs loans on the financial performance of commercial banks Kenya. The findings indicate that factor analysis was done in order for SMEs loans item to be practicable and meaningful in size, where all the 4 bits met the threshold of 0.4 and above. Correlation analysis results indicated that SMEs loans possessed a major positive correlation with ROA, ROE

and the current ratio. After carrying out regression analysis, the R-squared values showed that SME loans explained 25.37%, 21.67% and 7.27% on CR, ROE and ROA respectively. This result led the study to reject the stated null hypothesis with confidence levels of 95% therefore accepting the alternative hypothesis and concluded that SMEs loans have a noteworthy say on how commercial banks fair financially in Kenya.

5.2.4 Influence of Insider Loans on Financial Performance

The fourth specific objective was to assess the influence insider loans had on the financial performance of commercial banks in Kenya. The findings indicate that factor analysis was done in order for Insider loans item to be practicable and meaningful in size, where all the 4 bits met the threshold of 0.4 and above. Correlation analysis results indicated that insider loans had a significant positive relationship with ROA, insider loans had a significant inverse relationship with ROE and insider loans had a significant inverse relationship with current ratio. After carrying out regression analysis, the R-squared values showed that Insider loans explained 29.66%, 26.55% and 0.15% on CR, ROE and ROA respectively. This result led the study to reject the stated null hypothesis with confidence levels of 95% therefore accepting the alternative hypothesis and concluded that insider loans have a significance influence on how commercial banks fair financially in Kenya.

5.2.5 Moderating Influence of Bank Size

A comparison of panel regression results of the moderated equation against those of the models without moderation revealed that introduction of bank size result in improvement of the model's predictive power as evidenced by increase in the R-squared values. Specifically, introduction of bank size explained 61.8% variation in CR compared to 32.5% variation explained before introduction of bank size. In addition, the introduction of bank size explained 39.3% variation in ROA compared to 49.10% variation explained before introduction of bank size. Lastly, introduction of bank size explained 62.83% variation in ROE compared to 31.9% explained before introduction of bank size. In addition, the Wald statistic for the equations is statistically significant indicating that the variables used are statistically significant.

This result led the study to reject the stated null hypothesis with confidence levels of 95% therefore accepting the alternative hypothesis and concluded that bank size has a significant moderating influence between loan portfolio and the commercial banks' financial performance in Kenya.

5.3 Conclusion

In view of the research findings documented in the preceding chapter, the study makes several conclusions in relation to the research objectives and hypotheses. From tests of hypotheses the study concludes that personal loans, Real estate loans, SME loans and Insider loans overall do have a statistically significant influence on financial performance of commercial banks. In each of the type of loan as per the objective, loan deposits, value of loans advanced, defaults in terms of repayments, maturity of the loan and the total percentage of loan in the portfolio were found collectively able to influence the financial performance of all the commercial banks. Overall the model indicates a relatively good measure of fit for the variables included in the model and that there exists a strong influence of loan portfolio on ROA, ROE and CR. This finding is supported by several empirical studies though it also contradicts some other studies. With the analysis results showing that all this loans had a telling influence on financial performance at 5% level of significance, with R-squared of 39.3% on ROA, 62.83% on ROE and 61.8% CR, the study concludes that there could be other factors outside the scope of this study, that could be having a significant influence on financial performance of banks as independent variables for example decisions on size of loan to clients, zoning of clients, risk factors and the insurance of loaned amount. Other forms of loans depending on the nature and the tier of the bank can also have a noticeable influence on the financial performance of some banks, for example government lending, corporate lending and the interbank lending.

Bearing in mind that all the four stated hypotheses were rejected, the findings of the study on the moderating influence of bank size on the relationship between loan portfolio and financial performance was established, with the predictability of the model empowered through the changes in R-squared, choice of a particular loan, the

bank tier to finance it and size of loan can be dictated by the size of the bank. The conclusion then can be drawn that the amount loaned out to different parties will be influenced to a great extent by the size of the bank in terms of market share and number of branches.

Information asymmetry is one of the major hindrances to an effective loan portfolio in most of the major commercial banks, many financial institutions through an enquiry and observation cited lack of proper screened clientele information or the colluding of loan borrowers with the CRB to provide inaccurate information to commercial banks, this has acted as a major source of loan defaults by borrowers in each component that forms the portfolio under study hence putting the role of CRB in focus. This research provides an avenue to interrogate further the role of CRB and credit departments of commercial banks in minimizing the trend of non- performing loans.

5.4 Recommendations on Managerial and Policy Implications

Following the findings and conclusions made by the study, several recommendations are proposed. From the study findings, there is a danger of oversimplified analysis caused by overlooking the significance of personal loans to a banks' strategic portfolio and focusing on the linear correlation between financial performance and loan portfolio. Personal loans are the largest component in the loan portfolio therefore keen interest should be taken in its issuance otherwise will be the largest contributor to non-performing loans and weakened financial performance of commercial banks, to address this situation, proper information from credible sources should be sought after and strengthening most of the credit departments of commercial banks is a priority, the diversification of personal loans to reduce risks on defaults is essential which can be done by discriminating the borrowers based on the information available. To achieve this skills and training of employees in credit departments to sharpen their analytical skills on loan applicants should be given priority. Banks should employ a more aggressive policy on personal loan recovery due to excessive non-performing loans in this component. For the period in focus most of the commercial banks had ever increasing loan book throughout hence

encouraging more loan defaults, for this banks should be more concerned with the economic condition of the country at one particular time. Job rotation especially in credit department to avoid employees colluding with regular customers that can contribute to the concealment of critical information is also advised, this is informed by many top-ups that same borrowers are given hence fail to repay.

Real estate loans are also found to influence the financial performance of commercial banks in a considerable extend, this is informed by findings on the influence it has in the ROA, ROE and CR, for most banks this form of a loan is issued as diversification strategy to mitigate on the risks that might stem from personal loans, in the long run, if not properly monitored they are likely to course more havoc than any other form of loan due to the economic cycles and changes in borrowers incomes over time since they mature usually after a long period of time. The recommendation is to shorten the lending period and maturity of repayment, banks should embrace innovations by providing real estate developers with options and advice, these commercial entities should accept alternative source of repayment other than the property as a security, relationship lending is key because it provides the lender with an opportunity to monitor the borrower till the completion of the loan repayment, Loan restructuring with clients can also serve as a means of discouraging loan defaults.

SMEs in Kenya are habituated to operating in a semi-formal manner and banks are probably one of the most formalized institutions in our country, a big gap has opened up. The first step for commercial banks would be to minimize this gap by relaxing bank procedures. Banks should develop an official credit-rating system in easier way, even if in a limited manner, as soon as possible so that they can have some idea about the reliability of their SME clients. Commercial banks therefore should structure and have the same clients based rules and procedures when dealing with SMEs in terms of lending, the banks can greatly benefit themselves if they cooperate within themselves regarding credit rating, loaning procedure and previous history, as such, the commercial banks require urgent cooperation with the government and other financial institutions to decide on a uniform loan structure to prevent loan hopping a situation whereby same SME is lent by multiple banks by presenting different information. There is some unhealthy competition among the commercial

banks regarding SME loans. Unfortunately, this has not been happening in a perfectly legal manner either. This is happening due to loan structure differences between these banks to attract more SMEs, which unfortunately is being exploited negatively to the disadvantage of the lender and for this, the researcher recommends information sharing and monitoring the debt status of the SME clients.

Insider lending has a positive influence on the financial performance of commercial banks; however with poor banking monitoring by the regulator and a weak legal framework, bankers can easily hide insider lending abuse from the regulator and the shareholders and make the probability of detection to be low. This has been witnessed with the collapse of banks like Chase bank which is accused by the regulator and auditors of too much insider lending. To alleviate the situation, commercial banks should strictly follow the prudential guidelines issued by the CBK which puts the threshold on such lending and proper disclosure to be implemented as required by the banking laws. Although it was noted that there are regulations in place to prevent such lending practices, such as a restriction on the amount the bank can lend to one party or to insiders, these will only limit the amount of such bad lending practice, not prevent it. Indeed, these restrictions may not be effective at all if it is easy for the bank to circumvent them without being caught by the regulator. To prevent such too much of insider lending, the researcher recommends potential contracts to limit insider lending, namely, a penalty contract and an equity incentive scheme. The first contract allows the regulator to impose a very high penalty on the bank manager if insider lending is detected. The second contract provides the bank manager with a payoff that is linked to the value of the bank's equity. An equity incentive scheme will induce the bank manager to maximize the shareholder value of the bank and explore its effectiveness. This sharing scheme will lower the incentive problem due to the separation of ownership (shareholders) and control (bank manager) by providing the self- interested bank manager with an incentive to maximize the shareholder value.

For most of the commercial banks in Kenya, their size dictates the amount of funds loaned and the type of customers they interact with, banks that are in tier 1 mostly lend to corporate clients, governments and big business as evidenced by the loans in

their books, Tier 2 and 3 banks concentrates with retail customers and salaried customers, in some incidences, some commercial banks were found to have book loans more than what their assets can support, The researcher recommends that commercial banks should follow prudential guidelines on lending based on the tier system as per the CBK classification and to issue loans they can easily monitor and collect without subjecting themselves to excessive non- performing loans.

Overall, since an effective loan portfolio is what commercial banks are looking for, it is recommended for commercial banks to strive to this end, for purposes of improving their financial performance. The researcher through the study findings recommends for commercial banks to strife and create an effective and a balanced loan portfolio through creating risk rating systems, monitoring framework ,management information system and reporting, internal controls like (audit function, loan review function, credit administration and loan compliance), Problem loan workout whereby the objective is to preserve the banks overall position with respect to cash flow and collateral, therefore early detection of problems is key to success. Loan policy should be able to address the issue of problem loan workout.

5.5 Areas for Further Study

The study on loan portfolio focused mainly on four sub-variables. It was not possible to study all types of loans that influence the commercial banks' financial performance in Kenya. Although this study was successful in examining stated variables, it opened up avenues for which other areas can be studied in the future. One aspect of the research was that of study scope, the present study was only confined to Commercial banks in Kenya.

Furthermore, the study could be extended to a different context, for instance across a variety of other financial institutions such as Micro-finance institutions, and SACCOs. In addition, this study was confined only to four types of loans namely: Personal, real estate, SME and insider loans. A similar study on other types of loans which can form part of a loan portfolio in banks can be studied that includes government loans/lending, corporate loans/lending, interbank lending to ascertain their influence on the financial performance of these commercial banks. It would

also prove its usefulness in carrying out a similar research across East Africa and other places to determine if the same results would be observed.

There is also need for further research with a narrower scope focusing on recent concept of Islamic lending to ascertain if indeed it influences the financial performance of commercial banks. These recommended areas of study would further enrich the existing theory and literature on financial risk and insider lending.

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APPENDICES

Appendix I: Letter of Introduction

Date: _____

Dear Sir/Madam,

This data collection sheet is aimed at collecting data for academic research purposes on “Influence of loan portfolio on the financial performance of commercial banks in Kenya”. The study is in partial fulfillment of the requirements for the award of a PhD degree in Business Administration of Jomo Kenyatta University of Agriculture and Technology (JKUAT).

Please be assured that any information collected will be treated with utmost confidence and will be used for research purposes only. Thank you in advance for your time and cooperation.

Yours faithfully,

Molson O. Onchomba

Student, PhD, Business Administration

Reg.No.HD433-C004-3182/1

Appendix II: Secondary Data Collection Sheet

Year	PL	RL	SL	IL	CL	MS	NBR	ROE	ROA	CA
2006										
2007										
2008										
2009										
2010										
2011										
2012										
2013										
2014										
2015										

Key: PL = Personal loans; RL = Real estate loans; SL = SMEs loans; IL = insider loans; CL = current liabilities; MS = market share; NBR= number of Bank branches; ROE = return on equity; ROA = return on assets; CA=current assets

Appendix III: Commercial Banks in Kenya by December 2015 based on Tier System

Tier 1
1. Co-operative Bank of Kenya
2. Kenya Commercial Bank(KCB)
3. Equity Bank
4. Barclays Bank
5. Commercial Bank of Africa(CBA)
6. Standard Chartered Bank
Tier 2
7. Family Bank
8. I&M Bank
9. NIC Bank
10. Diamond Trust Bank
11. Bank of Africa
12. Housing Finance
13. Ecobank
14. Prime Bank
15. Bank of Baroda

16. CFC Stanbic Bank
17. Citibank
18. Guaranty Trust Bank
19. National Bank
20. Bank of India
Tier 3
21. Jamii Bora Bank
22. ABC Bank
23. Credit Bank
24. Dubai Islamic Bank
25. Fidelity Bank (now SBM Kenya ltd)
26. Equatorial Commercial Bank (now Spire Bank)
27. Chase Bank(in receivership)
28. Guardian Bank
29. Middle East Bank
30. Oriental Commercial Bank
31. Giro Commercial Bank (To be acquired by I&M bank)
32. Paramount Universal Bank
33. Trans-National Bank

34. Victoria Bank
35. First Community Bank
36. Habib A.G Zurich Bank
37. Imperial Bank (in receivership)
38. Gulf Africa
39. Sidian Bank (Previously K-Rep Bank)
40. UBA Bank
41. Consolidated Bank
42. Development Bank

Source: Central bank of Kenya (2015)

Appendix IV: Factor loading Results

	Component										
	1	2	3	4	5	6	7	8	9	10	11
PL1	.537			.500							
PL2		.582									
PL3	.465		.536	-.539							
PL4		.503	.621								
RL1	.547		.450								
RL2	.606	.512									
RL3	.709			-.455							
RL4	.614	.505									
SL1	.815			-.405							
SL2	.447			.651							
SL3		-.586									
SL4			.499	-.441							
IL1	.428			-.606							
IL2			-.644								
IL3	.670										
IL4	.593			.452							
REL5	.715	-.499									
REL6	.607			.480							
REL7	.541	-.580									

REL8				.635						
REL9		-.502	.603							
REL10			-.471	.491						
REL11	.681			.407						
REL12	.676		-.474							
IL1	.554									
IL2		.583	-.585							
IL3				.428						
IL4	.424		-.440	-.421						
FPI	.632			-.453						
FP2	.796									
FP3	.796									
BS1				.560						
BS2				.674						
2007		.678	.526							
			.548	-.426						
		.616		-.486						
		.460	.580	.488						
		.430		.460						
		.470		.499						
			.402							
				.535						
			-.500	.469						
		-.483		-.543						

			.451	.449						
			.406							
	.614		-.402	.420						
		.581								
	.486		.548	-.484						
		.527	.591							
	.572	-.409	.435							
	.585	.581								
2015	.715			-.439						

Extraction Method: Principal Component Analysis.

a. 4 components extracted.

Appendix V: Summary of Research Objectives, Hypotheses and Analytical Techniques

Objective	Hypothesis	Analytical Model	Interpretation of Results
To examine the influence of Personal loans on financial performance of commercial banks in Kenya	H ₀₁ : Personal loans do not have a significant influence on financial performance of commercial banks in Kenya.	<p>FP = f(Personal loans, PL)</p> $FP = \alpha + \beta_1 PL + \epsilon$ <p>Where α = constant (intercept), FP = Financial Performance, β_1 Coefficients of PL, and ϵ = Error Term</p>	<p>Hypothesis rejection rule:</p> <p>If p value < 0.05, the H₁ hypothesis supported;</p> <p>If p value > 0.05, the H₁ hypothesis not supported;</p> <p>R² to assess how much of dependent variable variation is due to influence of independent variable</p> <p>F test to assess the overall significance of the model</p> <p>Beta (β) to determine the contribution of each predictor variable to the significance of the model</p> <p>t to determine the significance of individual variables</p> <p>P value < 0.05 to check on statistical significance</p>
To establish the influence of Real estate loans on financial performance of	H ₀₂ : Real estate loans do not have a significant influence on financial performance	<p>Multiple linear regression</p> <p>FP = f(Real Estate Loans, RL)</p> $FP = \alpha + \beta_1 RL + \epsilon$	<p>Hypothesis rejection rule:</p> <p>If F statistic, R², p value < 0.05, the H₁ hypothesis supported;</p> <p>If F statistic, R², p value > 0.05, the H₁ hypothesis</p>

commercial banks in Kenya	of commercial banks in Kenya.	Where α =constant (intercept) , FP= Financial Performance , β_1 Coefficients of RL ₁ , and ε = Error Term	not supported; R ² to assess how much of dependent variable variation is due to influence of independent variable F test to assess the overall significance of the model Beta (β) to determine the contribution of each predictor variable to the significance of the model t to determine the significance of individual variables P value < 0.05 to check on statistical significance
To establish the influence of loans advanced to SME on financial performance of commercial banks in Kenya	H ₀₃ : Loans advanced to small and micro enterprises do not have a significant influence on financial performance of commercial banks in Kenya.	FP = f(loans advanced to SME, SL) FP = $\alpha + \beta_1 SL_1 + \varepsilon$ Where α =constant (intercept) , FP= Financial Performance , β_1 Coefficients of SL ₁ , and ε = Error Term	Hypothesis rejection rule: If F statistic, R ² , p value < 0.05, the H ₁ hypothesis supported; If F statistic, R ² , p value > 0.05, the H ₁ hypothesis not supported; R ² to assess how much of dependent variable variation is due to influence of independent variable F test to assess the overall significance of the model Beta (β) to determine the contribution of each

			<p>predictor variable to the significance of the model</p> <p>t to determine the significance of individual variables</p> <p>P value < 0.05 to check on statistical significance</p>
<p>To establish the influence of insider loans on financial performance of commercial banks in Kenya</p>	<p>H₀₄: Insider loans do not have a significant influence on financial performance of commercial banks in Kenya.</p>	<p>FP = f(Insider loans, IL)</p> $FP = \alpha + \beta_1 IL_1 + \epsilon$ <p>Where α=constant (intercept) , FP= Financial Performance , $\beta_1 \dots \beta_4$ Coefficients of IL₁ and ϵ= Error Term</p>	<p>Hypothesis rejection rule:</p> <p>If F statistic, R², p value < 0.05, the H₁ hypothesis supported;</p> <p>If F statistic, R², p value > 0.05, the H₁ hypothesis not supported;</p> <p>R² to assess how much of dependent variable variation is due to influence of independent variable</p> <p>F test to assess the overall significance of the model</p> <p>Beta (β) to determine the contribution of each predictor variable to the significance of the model</p> <p>t to determine the significance of individual variables</p> <p>P value < 0.05 to check on statistical significance</p>
<p>To determine the moderating</p>	<p>H₀₅: The bank size does not have a</p>	<p>Hypothesis five is tested using Baron and Kenny's steps for testing moderating</p>	<p>Determine the statistical significance of the interaction term (product of centered independent</p>

<p>influence of bank size between the loan portfolio and financial performance of commercial banks in Kenya.</p>	<p>significant moderating influence between loan portfolio and financial performance of commercial banks in Kenya.</p>	<p>effect consisting of three steps as specified below</p> <p>FP= $\alpha + \beta_1 PL + \beta_2 RL + \beta_3 SL + \beta_4 IL + \epsilon$ step 1</p> <p>FP= $\alpha + \beta_9 S + \epsilon$ step 2</p> <p>FP= $\alpha + \beta_1 PL + \beta_2 RL + \beta_3 SL + \beta_4 IL + \beta_5 PL * S + \beta_6 RL * S + \beta_7 SL * S + \beta_{8II} L * S + \beta_9 S + \epsilon$.....step 3</p> <p>Where FP=Financial Performance, PL= personal loans, RL = real estate loans, SL = loans advanced to SMEs, and IL = insider loan, S=Bank Size, (PL*S, RL*S, SL*S, and IL*S) are the interaction Terms and ϵ is error term</p>	<p>variable and centered moderator). Moderating effect occurs if the interacting term is significant ($p < 0.05$).</p> <p>R² to assess how much of dependent variable variation is due to influence of independent variable</p> <p>F/Wald chi square test to assess the overall significance of the model</p> <p>Beta (β) to determine the contribution of each predictor variable to the significance of the model</p> <p>P value < 0.05 to check on statistical significance</p>
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